University of Chester
Department of English
MRes in English
EN7005 Dissertation
2017-18

‘Amazed anew’: The Posthuman Dream, the Repetitive System, and Novum Decay in Modern Works of SF

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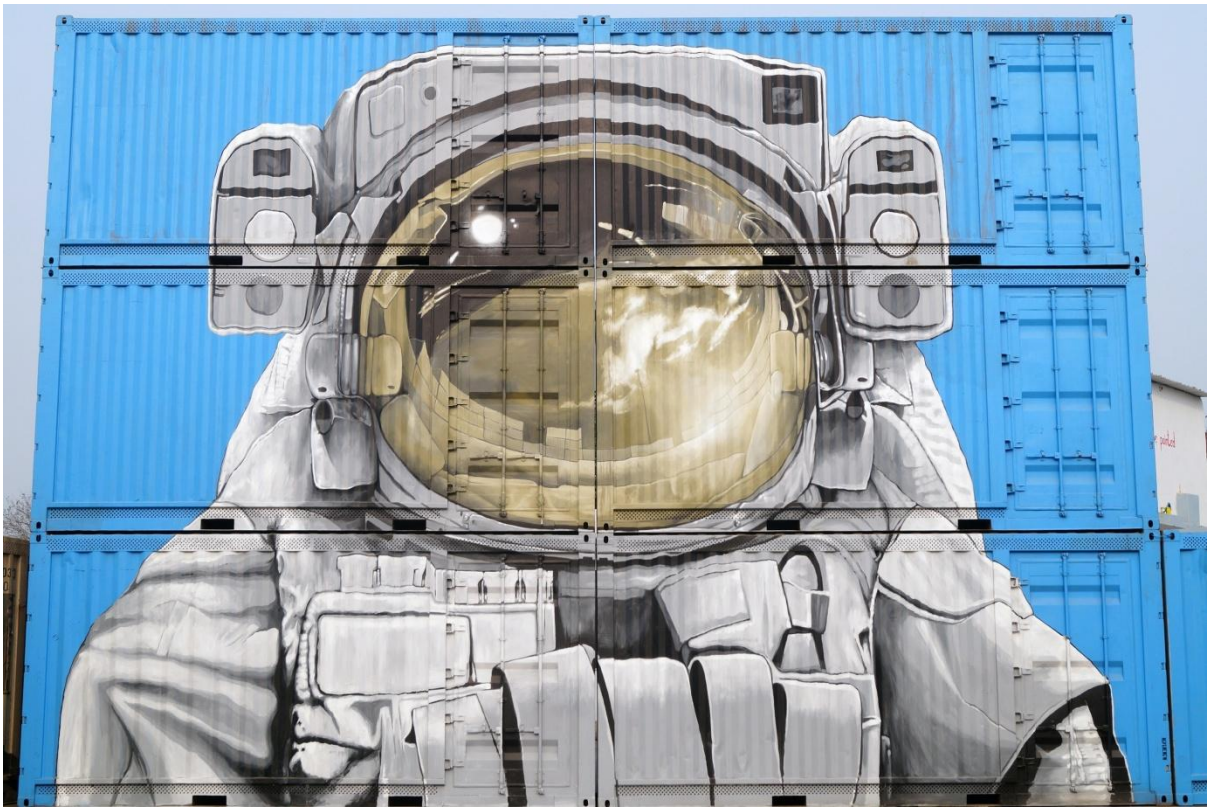

Abstract

This study contends that modern texts within the Science Fiction genre can be seen to espouse a posthuman dream, and so to encourage the (post)human reader, viewer, listener, or player to consider the posthuman potentialities of our species' future in correspondence with their own social present. Modern Science Fiction texts achieve this figurative function through the employment of repetitive systems, through which they prominently depict recognizable elements of the (post)human present within their otherwise radically defamiliarizing posthuman milieu. Therefore, whilst the newnesses within Science Fiction texts have commonly been presumed to be the predominant element of the genre, this study enjoins that the mundane, quotidian or banal elements of the genre are just as vital to its constitution. This radical rereading of the genre is not heedlessly contrarian, but rather comprises an important critical intervention within the fields of Critical Posthumanism and Science Fiction Studies.

By arguing that Science Fiction readers phenomenologically experience the nova of the genre decaying in imaginative potency at an intratextual level, this study proposes that the (post)human engagement with the genre is an extension of our species' penchant to rapidly become entirely habitualized to emerging technologies, despite them originally containing a quality of awe-inspiring novelty. Therefore, the ample ability of readers to become habitualized to the newnesses within the genre exposes the vast imaginative potential of our species, even as it emphasises the absolute reliance of the posthuman future on the (post)human present. As such, through the textual analysis of a range of works published during the last quarter-century, this study asserts than modern works of Science Fiction have a calculated posthuman purpose. To be exact, modern Science Fiction texts invite an understanding that posthuman concerns should be dictated by a number of pressing species-

wide concerns of the (post)human present, as opposed to the dictates of any fanciful conception of the future.

Acknowledgements

My sincere thanks are due to my supervisor Dr. William Stephenson, for having patiently supervised this project over the course of the last year, and for having provided invaluable feedback, candid discussion, and ingenious recommendations of theoretical works from which my thesis has benefited significantly. We can both be glad this study did not end up being a 30,727 word discussion of *Paint Your Wagon*.

I am also grateful to the University of Chester's Research department for funding me to attend the 2018 Beyond Humanism conference, at which I presented a paper based on Chapter 1 of this study.

As ever, my research has taken inspiration from the courageous actions of the pothole artist Wanksy.

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Introduction

Our Wars

> *'Born as a data mine for targeted marketing / And no one'll listen up until you become a hashtag or a meme'*
> - Jeff Rosenstock, 'To Be a Ghost'
>
> *'All I ever do is / Waiting to be doing something else'*
> - Shael Riley & the Double Ice Backfire, 'Personal Space'

As the common feeling of existential inertia shared by the personae of the above lyrics suggests, our species' existence in modernity is inextricably predicated upon the enlistment of the individual's consciousness to the performance of repetitive lifestyle elements. Unsurprisingly then, analogous depictions of the ubiquity of the mundane and/or banal features which our cultures and lives are established upon can also be observed within many other significant contemporary texts. To name just a few, *Groundhog Day*, *The Truman Show*, *Four Weddings and a Funeral* and *The Cabin in the Woods* are all highly critically regarded examples of filmic texts that feature a manifest repetitive element as their central narrative premise, yet whose narratives contrastingly work to deconstruct the habitual, and to vicariously make the mundane elements of life bearable.

The proliferation in recent years of incremental - or "clicker" - games only further epitomizes the apparent escalation of repetitiveness within our lives, their acute popularity being symptomatic of the way in which repetitive existences are perpetuated by late-capitalist ideologies. Whilst the aesthetic of "clicker" games frequently emphasizes their faculty to provide an escapist respite from the mundanity of everyday life, the player's predominantly passive mode of engagement with them concurrently engenders an aggrandized restitution of that same intellectual lethargy they attempt to circumvent through playing, merely realized in a new, and chiefly, saleable form. That many people choose to make their lives only more repetitive by playing "clicker" games is intriguingly perverse; although the process of

repetition enacted within these games is in itself profligate, immersion within the limited gameplay mechanics of repetitive games is a sought-after phenomenon.[1] Having thus far instigated this study somewhat tangentially, in order to briefly ascertain the fundamental manner by which the mundane precludes all of our lives, I believe it is now pertinent to begin to define the import which our species' deeply repetitive existence bears upon the fictional genre of Science Fiction.[2]

Let us continue then, by considering a number of textual features of the latest *Star Wars* episode, *The Last Jedi*, and the ways in which they influence the overarching SF narrative of the film.[3] In the film's coda, an unnamed slave boy on the planet Cantonica is revealed to be force sensitive. As he stands staring out of the door of the stable he cleans at the constellations in the night sky above, he sees the signature blue ion drive afterglow of a starship passing by.[4] This brief scene perfectly epitomises the manner by which SF functions, demonstrating that the widespread appeal of the genre to its audience lies in escapism above all else, but also recalling that SF nonetheless reflects upon the audience's contemporary world. Just as the slave in the scene is unable to visit the solar systems he sees arrayed tantalisingly above him, the audience is unable to live inside his diegetic world beyond the film's closing shot of his wistful skyward gaze.[5] Nonetheless, the newnesses of his diegetic world themselves become the means by which the audience can access a sense of his alien unreality, as during the passage of the film, the *Star Wars* universe subjectively becomes significantly more verisimilar than it was during the title crawl.

[1] Incremental games are discussed further in the conclusion of this study.
[2] Throughout this study, I shall follow the established critical convention of referring to the genre of Science Fiction by the initialism of SF.
[3] Although many critics do not believe the *Star Wars* films qualify as SF, since they are mass-market media, I shall defer to the genre they are marketed as in order to categorize them.
[4] Please see appendix 1.
[5] Except perhaps, by adhering to capitalism wholesale by buying another ticket to re-watch the film, having waited until its release on home media, or purchasing official Disney brand *Star Wars: The Last Jedi* paraphernalia.

Though it is marketed as SF, given that this film is the ninth major release in the *Star Wars* IP,[6] it seems thoroughly impossible that any story set within the *Star Wars* universe could still facilitate its audiences' engagement via defamiliarizing novelty, as is characteristic of the SF genre's storytelling technique. Despite *The Last Jedi* patently and exuberantly being the most subversive film in the IP to date, its axiological palimpsestousity predetermines that it remains fundamentally recursive, unable to ever entirely abdicate the semantic burden of its forebears. Hence, like every successful sequel, to curtail its imaginative stagnation the film deploys a plethora of new-er elements to counterpoint those ones already familiar. Such nova include Luke Skywalker's ability to use the force to project a facsimile of his body across the galaxy (in order to distract his nephew from his pursuit of the Resistance), and the First Order's development of technology which allows them to track ships through hyperspace.

Although both of these newnesses have an immense impact on the plot of the movie, and thereby alter the wider narrative progress of the IP's mythos, they are fundamentally only developments of earlier-established newnesses, demonstrating that the force and hyperspace themselves are elements which have patently lost the quality of newness they originally contained, and are thus no longer newnesses, until the point at which *The Last Jedi* has recreated them as such. Consider the huge extent to which journeys through hyperspace are elided in many of the IP's recent films, especially compared to the technology's direct narrative significance in the *Original Trilogy* films. This directorial decision carries the implicit assumption that hyperspace's quality of technological transmundanity is no longer a newness to the audience, and hence unworthy of significant narrative exposition. Through repetition, it is become a negligible plot device to service the interstellar journey of characters toward new newnesses (hyperspace), where it was previously a newness itself (Hyperspace™).

[6] Intellectual property.

One particular sequence in *The Last Jedi* is particularly imperative to the film's cognizant drive, despite its superficially comedic purpose. As a new scene begins aboard the Star Destroyer Supremacy, a low-angle shot depicts what appear to be the repulsorlift jets of a spacecraft venting steam, whose vertiginous landing seems to imperil the fourth wall.[7] The shot transitions to a medium shot of the surrounding room, and it becomes clear that what appeared to be the underside of a henceforth unforeseen spaceship, was in fact an iron, now shown being manoeuvred robotically to iron First Order uniforms.[8] This playful reveal is bathetic, as the unexpected and initially defamiliarized appearance of the iron - an object characteristic of the audience's mundane - not only momentarily disrupts, but also deconstructs, the SF narrative of the text. In this way, the sequence satirizes the reciprocal process of estrangement and cognition which constantly occurs between the nova of the SF text and the audience's knowledge of their own mundane reality, through which the reader's imagination comes to colonise the text's newnesses.

Through the audience becoming cognizant of the nova of its SF universe then, *Star Wars* effectively becomes Our Wars, so that whilst the SF text superficially materializes an 'encounter with difference' to produce an imaginative landscape enfranchised from Earthly limitations, it nevertheless facilitates a deeper understanding of the contemporary world.[9] The same formative interaction between nova and processes of repetition is palpable within the numerous SF texts from the last quarter-century that facilitate the analysis of subsequent sections of this study.[10] In Michel Faber's *Under the Skin*, an alien visitor to Earth travels the motorways of the Scottish highlands, abducting only those male human hitchhikers she deems suitable to be farmed and processed as vodsel meat, which is a delicacy on her home

[7] Please see appendix 2.
[8] Please see appendix 3.
[9] Adam Roberts, *Science Fiction* (Abingdon: Routledge, 2006), p. 16.
[10] Since Kim Stanley Robinson's *Red Mars* was first released in September 1992, this study technically spans the last twenty-six years of SF. However to define the study's scope accordingly would be overly pedantic, especially given that the *Mars Trilogy* was not completed until the publication of *Blue Mars* in April 1996.

planet. Every morning, after waking she completes a quotidian morning routine, which is recurrently narrated in studious detail. In Jeanette Winterson's *The Stone Gods*, humans from the planet Orbus travel to Earth to escape the ecological devastation they have wreaked on their home world, only to inadvertently trigger the Cretaceous-Tertiary mass extinction event. Millions of years later, the economic hegemony of global capitalism having been re-established, it becomes apparent that their surrogate planet's environment has become irreparably polluted by the aftermath of a devastating global conflict.

In *Source Code*, a catatonic military officer - who has been terminally wounded in conflict - is enticed to repeatedly enter a piece of simulatory technology which allows him to inhabit the terminal memory loop of a victim of a terror attack, with the goal of gaining intelligence regarding the identity of the perpetrator of the attack. Time and again, he is murdered within the simulation, only to be ordered to reattempt his unconventional reconnaissance operation upon regaining cerebral consciousness. And at the conclusion of Kim Stanley Robinson's *Mars Trilogy*, almost two centuries after they arrived, having survived three revolutions, mass emigration from Earth, and having begun to learn how to forestall death itself, the characters of the text can finally be said to have succeeded in colonising Mars. The final chapter of the trilogy, set on a Martian beach, could just as easily have been set on Earth in the present day, the colonists having terraformed the planet so extremely.

As even these brief schemata have begun to show, there exists a prominent interaction between newness and repetitiveness in SF texts, a complex *repetitive system* as it were. Although the repetitive, mundane, or banal is often a substantial aspect of realist texts, in SF these quotidian elements have a specialized function, being fundamental to the genre's artifice; the drive toward cognition of that which is presently alien. As the process of interacting with an SF text is primarily a process of received cognition, it is a process which

vicariously excites a posthuman perception of our species, opening the reader's mind to the experience of that which lies beyond current scientific progress, and perhaps the possible altogether. That there lies a latent imaginative possibility within the supposedly human mind, capable of understanding the alien, as our ability to understand SF proves there does, shows that our species is capable of becoming drastically posthuman, and that it has already at least partially begun the process of becoming so.

Accordingly, this study shall henceforth refer to our species as (post)humanity, or as to our condition as being (post)human, in concord with the contention that we lie at an intermediary stage between being human and posthuman. The following chapters shall further demonstrate that SF texts function to analogise the posthuman, detailing that they do so in a cognitive manner, their cognizant drive realized through intratextual repetitive processes.

Chapter 1

SF: Quotidian Matters

> *'Make your way to the toilet / These morning ablutions are all part of the dance'*
> - LCD Soundsystem, 'other voices'

If the cultural production of SF texts comprises a creative process of 'Humanism forever rewrit[ing] itself as posthumanism', it ostensibly appears counterintuitive that SF should be reliant on repetition as a fictive device.[11] Consequently, this chapter shall critically explore the basis of this apparent incongruity, by comparing the manner in which the *repetitive systems* of two SF texts generate cognizance of their nova by depicting the (post)human quotidian prominently within their narratives. It will subsequently be demonstrated that, rather perversely, it is precisely the presence of the quotidian in the SF genre that actually confirms the capacity of the (post)human mind to transcend enclosure by the presumptive contemporary boundaries of humanness.

In Michel Faber's *Under the Skin*, as Isserley drives across the Kessock Bridge in Scotland, she is terrified at the prospect of 'fierce side-winds trying to sweep her little red car into space' off of what she envisions as 'a concrete tightrope'.[12] Although roughly 30,000 vehicles cross the bridge each day,[13] many of whom likely only regard it momentarily, if at all, Isserley is 'acutely conscious' (p. 70) of the construction's material nature, demonstrating that despite her having regularly driven over the bridge for years, she has categorically not become habitualized to its novelty. Viktor Shklovsky defines habitualization as an omnipresent cognitive phenomenon by which 'The object [...] fades and [...] ultimately even

[11] Neil Badmington, 'Posthumanist (Com)Promises: Diffracting Donna Harraway's Cyborg Through Marge Piercy's *Body of Glass*', in *Readers in Cultural Criticism: Posthumanism*, ed. Neil Badmington (Basingstoke: Palgrave, 2000), pp. 85 - 97 (p. 97).
[12] Michel Faber, *Under the Skin* (Edinburgh: Canongate, 2014), p. 70. All further references will be given in the body of the text.
[13] 'A9 Kessock Bridge resurfacing', *Transport Scotland*, 31 March 2017 <https://www.transport.gov.scot/projects/a9-kessock-bridge-resurfacing/a9-kessock-bridge-resurfacing/> [accessed 3 September 2018].

the essence of what it was is forgotten', and so in this passage, Isserley's perverse inability to become habitualized to crossing a bridge implies a deficit in a cognitive process which is so ubiquitous within (post)human life that it is habitually taken for granted.[14] Hence *Under the Skin* accentuates the extent of Isserley's alienness not purely through detailing her familiarity with nova, but also by specifying her failure to become familiarized to a bridge, and thus her inability - in this instance - to share a common cognitive conceptualization of the mundane object with (post)humans.

Habitualization is a cognitive process which demonstrably precludes the the lives of every member of our species, and is even manifest in such activities as reading itself. A saccade is by definition, the rapid eye movement determined by 'the decision about where to look next' which the (post)human eye makes when reading a page of words and attempting to synthesize its data.[15] Importantly, saccades determine that the reading process does not function infallibly, as 'fixation time on a word is strongly influenced by both the frequency of the currently fixated word and its predictability from the prior context', rather than being determined by a comprehensive recognition of the fixated word having been achieved.[16] This leads to a reading process in which 'predictable words are not only fixated for less time than unpredictable words, they are skipped more frequently than unpredictable words', just as you yourself may have skipped the repeated word 'the' in the first sentence of this paragraph.[17] As this admittedly ludic illustration demonstrates, (post)human consciousness itself is often involuntarily impaired by our species' habitualization to that which is repetitive or quotidian.

Although it is an SF text with an alien central protagonist, *Under the Skin* nevertheless depicts numerous repetitive and quotidian processes. Isserley's job feels

[14] Viktor Shklovsky, 'Art as Technique', in *Literary Theory: An Anthology*, eds. Julie Rivkin and Michael Ryan (Oxford: Blackwell, 2004), pp. 15 - 21 (p. 15).
[15] Keith Rayner, Katherine S. Binder, Jane Ashby, and Alexander Pollatsek, 'Eye movement control in reading: word predictability has little influence on initial landing positions in words', *Vision Research*, 41 (2001), 943 - 954 (p. 943).
[16] Rayner et al., 'Eye movement control in reading', p. 944.
[17] Ibid.

particularly laborious to her because she is never rewarded according to her performance, and so her endeavours to source suitable vodsels feel menial and unfulfilling. Her dissatisfaction eventually leads her to scream 'Why must you always fucking say that!' (p. 271) at a co-worker, after he unthinkingly compliments her as usual for bringing back 'One of the best ever' (p. 271) vodsels, despite the hitcher being 'wrinkled' (p. 261), 'grey' (p. 261) and despicably 'average' (p. 262) in this instance. Karl Marx states that the worker only 'works in order to live. He does not even reckon labor as part of his life, it is rather a sacrifice of his life. [...] Life for him begins where this activity ceases', and so Isserley feels alienated from herself because her mode of labor does not permit her to act autonomously and with an impunity of imagination.[18] Likewise, as when Isserley wonders whether she should perform the quotidian task of shaving before deciding that 'she could get away with leaving it for one more day' (p. 68), ideologies are not only materialized, but also internalized by repetitious processes, and the quotidian elements of (post)human lives are therefore far more significant than they are often presumed to be.

The pervasive extent to which habitualization determines the life conditions of conscious beings is further made evident when Isserley showers:

> Abstracted, she drifted away from consciousness, slowly revolving under the warm cascade of water. Her hands and arms continued to slither around on her flesh, slick with lather, settling into a regular rhythm, a regular route. She closed her eyes.
>
> Only when she realized that some of her fingers had strayed between her legs, searching blindly for what was no longer to be found there, did she come back to her senses and rinse herself with businesslike efficiency. (p. 148)

Despite knowing that her 'genitals [are now] buried forever inside a mass of ugly scar tissue' (p. 186), it is only when she absentmindedly attempts to probe her vodsel body with onanistic intent that she is snapped out of the state of reverie induced by the routine of showering, with

[18] Karl Marx, 'Wage Labor and Capital', in *Literary Theory: An Anthology*, eds. Julie Rivkin and Michael Ryan (Oxford: Blackwell, 2004), pp. 659 - 664 (p. 660).

the dysphoric remembrance that her countenance has been changed irrevocably. In parallel, it is estranging that Isserley considers herself a 'standard-issue human being', and refers to our own species as vodsels, despite her species standing 'on all fours, [with] a prehensile tail, [...] long spearhead ears and [a] vulpine snout' (p. 110). From Isserley's perspective, our species is a subordinate creature whom the majority of her own species justly considers it entirely ethical to farm and harvest, as our significance is directly equitable to that of 'A few parcels' worth of meat' (p. 206), and thus our species itself comprises a prominent mundane component of her labor.

As such, Isserley's apathy towards our species is suggestive of how SF functions more widely, demonstrating that the relationship between *Under the Skin's* SFnal reality and our own is not simply unilateral, but dialectically reciprocal. Although all texts are ultimately composed of only 'the tracery of significant black lines on the white ground of a printed page', they inherently contain evocative qualities, enabling them to achieve a figurative significance that far transcends their two-dimensional fundament.[19] Whilst every fictive novel is 'an ordering consciousness that creates its own time and consequence', those consequences created by SF are manifestly the most radical within fiction.[20] Interpreting SF as a metaphorical literature that provides commentary on the contemporary, Darko Suvin states that the genre 'reflect[s] on the author's own historical period and the possibilities inherent in it' above all else, and thus as (post)human consciousness shifts, so too do the dominant concerns of SF texts, always remaining inextricably determined by material existence.[21] More recently however, Adam Roberts has rejected Suvin's hypothesis, arguing that a significant problem created by the characterization of SF as a purely metaphorical mode is that 'the one-to-one mapping implied by metaphor at its most basic level [...] tends towards the reductive',

[19] Robert Alter, *Partial Magic: The Novel as a Self-Conscious Genre* (London: University of California Press, 1978), p. 42. Or black pixels on an e-page and/or audio narration in the modern world.
[20] Alter, *Partial Magic*, p. 79.
[21] Darko Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (London: Yale University Press, 1980), p. 76.

and therefore that Suvin's conceptualization of the SF text as an allegory for class relations shrinks the text 'to a limited field of signification'.[22]

In contrast, this study avows that SF can best be categorized as an imaginative or dream territory for the posthuman mind to colonize,[23] a position which aptly straddles the theoretical divide between Suvin and Roberts. This study maintains a sense of the significance of the SFnal textual world itself, whilst still acknowledging that the genre undeniably has a metaphorical function. Its gravamen is the contention that by offering 'a creative approach tending toward a dynamic transformation rather than toward a static mirroring of the author's environment', SF provides a transient dreamscape for visitation by the (post)human mind, by which the reader gains an expanded perception of not only their own empirical environment, but also of posthuman possibility.[24] Like Ernst Bloch's supposition that 'From the anticipatory, [...] knowledge is to be gained on the basis of an ontology of the Not-Yet', the posthuman dream SF focalises is a sufficient journey in itself, and any prophecy or scientific foresight the text may appear to posit is largely ancillary to its imaginative drive.[25]

This study subsequently contends that the posthuman dream of SF is not produced by newnesses alone, but rather by the *repetitive system* that underlies each SF text. Whilst Suvin states that 'the boredom of a nine-to-five drudgery relieved [only] by flashes of TV commercials' is anathema to SF, this study asserts that it is precisely this type of social lethargy that necessarily underlies SF's newnesses in order to focalise its posthuman drive.[26] The monophonous existence of a character in *Under the Skin* named Dave is particularly redolent of the monotony of modern life; whilst in conversation with Isserley he mordantly

[22] Roberts, *Science Fiction*, p. 136.
[23] The word colonize obviously carries significant semantic baggage. I evoke it here in the most benign sense possible.
[24] Suvin, *Metamorphoses of Science Fiction*, p. 9.
[25] Ernst Bloch, *The Principle of Hope - Volume One*, trans. by Neville Plaice, Stephen Plaice and Paul Knight (Cambridge: MIT Press, 1996), p. 13.
[26] Suvin, *Metamorphoses of Science Fiction*, p. 24.

complains that although he spends ‘most of [his] time’ vapidly watching television, he is not able to do so all day, as during the daytime, as he is ‘at work’ (p. 125). For Paul Ricoeur ‘Metaphor is living by virtue of the fact that it introduces the spark of imagination [...] at the conceptual level’, yet this spark has a finite lifespan, and the (post)human mind soon colonizes and becomes cognizant of any textual newness in SF.[27] The genre therefore relies on the perpetual ‘invention of new living metaphors that redescribe metaphor [to] allow a new conceptual production to be grafted onto the metaphorical production itself’, as given that any defamiliarizing newness is intratextually unsustainable, every novum is subject to *novum decay*.[28]

It is through the continuance of the SF genre as a whole that SF itself maintains its axiological sensation of conveyed newness, the continual publication of new texts advancing the genre ever further, in synergy with the concomitant development of the (post)human species. Although SF is primarily a literature of newness then, it is reliant on the *repetitive system* of interacting nova and repetitive elements to sustain itself intertextually and bear applicability to the (post)human, as ‘The new cannot be spoken except in relation to the old [...] it can be expressed only by articulating its differences from that which it displaces, which is to say the old’.[29] After Isserley completes her daily exercises which will prevent ‘her body punishing her for’ being lazy (p. 51), she dons ‘her clothes for the day, the same clothes as yesterday’ (p. 52), her adoption of such quintessentially human behaviours making it apparent just how essential a process habitualization is to any level of conscious existence. Indeed, there is great utility to the process by which ‘as perception becomes habitual, it becomes automatic’, to the extent that a life lived without habitualization would be

[27] Paul Ricoeur, *The Rule of Metaphor: Multi-disciplinary studies of the creation of meaning in language*, trans. by Robert Czerny, with Kathleen McLaughlin and John Costello (London: Routledge, 1994), p. 303.
[28] Ricoeur, *The Rule of Metaphor*, p. 294.
[29] N. Katherine Hayles, ‘The Life Cycle of Cyborgs: Writing the posthuman’, in *Science Fiction and Cultural Theory*, ed. Sherryl Vint (London: Routledge, 2016), pp. 247 - 257 (p. 248).

interminably confusing, and perhaps entirely unliveable altogether.[30] Imagine, for example, having to relearn how to tie your shoelaces every morning for each day of your life, followed by how to drive your car to your place of work. Without the ability to become accustomed to the recurring elements of life, an individual could have no sense of day-to-day security.

After Isserley is forced to brutally murder a hitchhiker who has attempted to rape her, her familiar vodsel-sourcing routine is debased, and there follows a postmodern break in the text generated by three subsequent pages of the novel which are entirely blank.[31] Through its verbal paucity, this caesura-esque narrative device seems to communicate that a paradigm shift has occurred within the novel's plot. Significantly however, Isserley soon compulsorily reverts to the safety of her usual vodsel-sourcing routine regardless, seeking refuge from the unpredictable by fervently longing to become familiarized to a routine once more:

> Isserley always drove straight past a hitch-hiker when she first saw him, to give herself time. That's what she'd always done. That's what she would do now. There was a hitcher in her sights. She drove past him.
>
> She was looking for big muscles. Puny, scrawny specimens were no use to her. This one was puny and scrawny. He was no use to her. She drove on. (p. 197)

This passage is replicated almost verbatim from the text's opening page, which suggests that it portrays Isserley subvocalizing a well-known mantra within her head, a mantra which now seems worryingly less imperative than it did previously. She finds herself lost without the sense of familiarity created by habitualization, which results in her customary opening gambit, when spoken to the next hitcher she encounters 'suddenly seem[ing] an absurd thing to say' (p. 198). Although Rita Felski is not discussing SF directly when she states that 'everyday life [...] is, indisputably: the essential, taken-for-granted continuum of mundane activities that frames our forays into more esoteric or exotic worlds', the evocative quality

[30] Shklovsky, 'Art as Technique', p. 15.
[31] These blank pages are pp. 194 - 196 in the edition of the novel referred to in this study.

she conjectures repetition actualizing is highly applicable to the function of the quotidian within the genre.[32] As further becomes evident when Isserley contemplates pebbles on a beach which have been formed by a 'million years of polishing and re-shaping' (p. 62) by the incessant tide, any supposedly ultimate posthuman state achieved by descendants of our species will be no less ephemeral than humanity itself was. Therefore when SF texts utilise repetitive features, they acknowledge the transience of their own posthuman dream, and place themselves on a wider continuity of (post)humanity, hence presupposing that our species will continue to progress beyond their own respective imaginative horizons.[33]

Repetition then, is in no way either an exclusively human or (post)human phenomenon, nor a fundamentally detrimental one, and will continue to figure in the lives of (post)humans and resultant species. Observably, fractals are 'geometrical constructs that exhibit *self-similarity* [...] that resemble themselves' inherently, and 'whose complexity is due to infinite repeating details within details'.[34] Fractals occur readily in nature, in shapes such as the snowflake, in addition to the 'distribution of the stars, the galaxies, the clusters of galaxies, and so on'.[35] The presence of repetition in the natural world surely demonstrates that 'it is an intellectual delusion to think that we can simply abandon our habits, blind spots, and assumptions [...] because such habits form the very basis of who we are', just as repetitive processes form the basis of what the universe itself is.[36] It is important to note, if we consider the saccade once more, that although eye movement being controlled by 'low-level visual factors such as word length and how far the launch site is from the target word'[37] would seem to determine the position of each saccade rather arbitrarily, 'this simple strategy

[32] Rita Felski, *Doing Time: Feminist Theory and Postmodern Culture* (New York: New York University Press, 2000), p. 77.
[33] This posthuman continuum is in many ways complementary to the concept of the SF Megatext first proposed by Christine Brooke-Rose.
[34] Gabriel Landini, 'Fractals in microscopy', *Journal of Microscopy*, 241.1 (2011), 1 - 8 (p. 1). Emphasis in original.
[35] Benoit B. Mandelbrot, *The Fractal Geometry of Nature*, (New York: W. H. Freeman and Company, 1983), p. 84.
[36] Felski, 'The Invention of Everyday Life', p. 95.
[37] Rayner et al., 'Eye movement control in reading', p. 953.

of targeting the middle of a word may not be "dumb", but close to optimal'[38] given its base efficiency. Patently, acclimatization to repetition is often directly expedient then, as the rhythmic quality of habitualization 'eases the work by making it automatic', streamlining and hence accelerating the performance of familiar processes.[39]

The opening panorama of the 2011 film *Source Code* is an extensive aerial shot, which portrays a cityscape indistinguishable from that of many contemporary US cities, which is later revealed to be Chicago. Clearly, this SF film's setting is not intended to be immediately defamiliarizing in the way that the opening of Glazer's *Under the Skin* is, its near-future depiction of (post)human life instead belonging to a subgenre termed mundane SF. Whilst the novum is still fundamentally 'hegemonic, [...] so central and significant that it determines the whole narrative logic' in mundane SF, it is necessarily situated within a highly saturated *repetitive system*, so that its temporal locale depicts the recognizable fundaments of contemporary life, and thus establishes a textual environ which is otherwise consummately cognizant to the reader.[40] The mundane SF movement centres around the proposition that as 'interstellar travel remains unlikely', SF nova such as 'forms of faster-than-light magic are wish fulfillment fantasies rather than serious speculation about a possible future', and advocates that the focus of SF should be redressed accordingly.[41] This movement bases its assumptions in part on the Fermi paradox, supposing that since 'it is unlikely that alien intelligences will overcome the physical constraints on interstellar travel any better than we can', texts which insinuate an imaginative reawakening can only be produced by the relation

[38] Rayner et al., 'Eye movement control in reading', p. 952.
[39] Shklovsky, 'Art as Technique', p. 20.
[40] Suvin, *Metamorphoses of Science Fiction*, p. 70.
[41] Geoff Ryman, et al., 'The Mundane Manifesto', *SFGenics*, 4 July 2013 <https://sfgenics.wordpress.com/2013/07/04/geoff-ryman-et-al-the-mundane-manifesto/> [accessed 29 November 2017].

of journeys elsewhere in the cosmos are misguided, and 'can encourage a wasteful attitude to the abundance that is here on Earth'.[42]

It is worth clarifying however, that SF has always been comprised of considerably mundane elements, as Abigail Nussbaum has also noted.[43] William Gibson for example, muses that despite cyberspace having been the paramount novum of his *Sprawl Trilogy*, it has become just 'another part of the city' since the advent of cyberspace in reality, and accordingly, the reader's relation towards the novelty it originally encompassed has now been redefined by 'its ubiquity and the absolute quotidian banality of much of what [...] we do with it' in everyday life.[44] To clarify my position, I accept the mundane movement's premise, but disagree with its insinuation that far-flung SF is in any way worthless. In every variety of SF, the dual signification of the text's *repetitive system* encompasses a potential to redescribe known (post)humanness whilst conceptualizing as-yet-unknown newnesses.

Demonstrably, *Source Code's* opening draws a contrast between the typified familiarity of Chicago's cityscape, and the considerable posthuman morphology which it encloses on closer inspection. By presenting a multitude of cars, metal buildings, and a train from an abnormal viewpoint, the shot renders individual (post)humans invisible, offering a perspective from which we appear to be mechanical or technological entities rather than biological beings. In beginning by merely depicting a mundane *mise en scène* without deploying any novum, the text hereby attains a defamiliarizing effect that exposes the already significantly posthuman nature of contemporary life. Accordingly, the posthuman progression of our species is already widely demonstrable in empirical terms. As a recent study found, when walking, 'pedestrians [alter] their visual search behaviour and adaptive

[42] Ryman, et al., 'The Mundane Manifesto'.
[43] Abigail Nussbaum, 'It's Almost Obligatory: Mundane SF', 2 November 2005 <http://wrongquestions.blogspot.co.uk/2005/11/its-almost-obligatory-mundane-sf.html> [accessed 29 November 2017].
[44] William Gibson, 'The New Cyber/Reality', *The Agenda with Steve Paikin*, 6 December 2010 <https://www.youtube.com/watch?v=WVEUWfDHqsU> [accessed 5 June 2018].

gait when using their phone compared to no phone being present',[45] this change in behaviour being hypothesized to be 'consistent with participants adopting an increasingly cautious stepping strategy which may serve to reduce the risk of tripping/falling'.[46] That our species' usage of mobile phones has - in less than half-a-century - literally altered the way we have walked for millennia, is unassailable proof that as technology advances, so do we become altered. Moreover, the proliferation of social media and the internet itself 'helps humans escape from physical space into a purely communicative (virtualised) space' where social interactions morph into a neoteric form by which they no longer have to occur face-to-face.[47]

(Post)humans are not the sole occupiers of the mixed reality the internet comprises however. To give just a couple of examples, bots relentlessly edit Wikipedia, where by utilizing 'state-of-the-art machine learning techniques'[48] they are immensely effective at curtailing vandalism, and a chatbot forms an integral part of Seattle Against Slavery's drive to deter men attempting to solicit sex with underage women.[49] As the examples of the hit VR game *Pokémon Go*, and *Majestic* - a 2001 game capable of phoning and emailing its players - further emphasize, contemporary life has already become saturated with the virtual, blurring traditional distinctions of reality. This is particularly apparent when Captain Colter Stevens awakens on what ostensibly appears to be a train in *Source Code*. Although the film's narrative opens *in medias res*, midway through an ostensibly pedestrian train journey, Stevens' wide eyed survey of his environment reveals that it appears entirely unfamiliar to him, and he soon verbally confirms that he has no residual memory of how he got on board.

[45] Matthew A. Timmis, Herre Bijl, Kieran Turner, Itay Basevitch, Matthew J. D. Taylor, and Kjell N. van Paridon, 'The impact of mobile phone use on where we look and how we walk when negotiating floor based obstacles', *PLoS ONE* (2017) <https://doi.org/10.1371/journal.pone.0179802> [accessed 11 December 2017] (p. 17).
[46] Timmis et al., 'The impact of mobile phone use', pp. 17 - 18.
[47] Antonio Sandu, 'The Anthropology of Immortality and the Crisis of Posthuman Conscience', *Journal for the Study of Religions and Ideologies*, 40.14 (2015), 3 - 26 (p. 7).
[48] Aaron Halfaker and John Riedl, 'Bots and cyborgs: Wikipedia's immune system', *Computer*, 45.3 (2012), 79 - 82 (p. 80).
[49] Dave Lee, 'The chatbot taking on Seattle's sex trade', *BBC News*, 25 November 2017 <http://www.bbc.co.uk/news/technology-42120800> [accessed 11 December 2017].

In actuality, the train is the centrepiece of a simulated iterative environment within which he has been largely immersed for an indeterminate amount of time already, and it is implied that his mind has been wiped after numerous permutations of the same journey, in order that he experiences it anew again. It is significant that his loss of memory is akin to habitualization, as his plight forms a metaphor for the audience's own habitualization. The audience vicariously experiences Stevens' loss of memory of the events preceding this scene, raising the possibility that due to the deceptive basis of virtuality, they too could be living in a simulation without being aware of it.[50]

However, when the film's first scene culminates with the train unexpectedly exploding in a giant fireball, the mundane essence of this simulatory environment is inexorably shattered. The prior realist plausibility of what appeared to be a train is now revealed to be fabricated by a novum within the diegetic world, and thus the train's mundane environ is made SFnal each subsequent time it appears in the narrative. The film's pseudoscientific eponymous novum is responsible for this simulation, the Source Code technologically utilizing a short-term memory track which briefly survives the brain's necrosis courtesy of an electromagnetic field, to create the virtualised environment Stevens' recurrently finds himself within. Although the nature of the novum could easily be misconstrued, the 'Source Code is not time travel, rather [...] time reassignment',[51] its operators mining the knowledge Stevens can gleam from the memory track of a dead passenger pertaining to the terrorist attack fatal to him, in order to attempt to prevent a second attack.

After he regains consciousness strapped to a chair in a dark room, Source Code's operators explain to Stevens that he 'will have eight minutes, same as last time' in his next immersion in the simulation, revealing that a considerable portion of the first narrated

[50] For a discussion of the simulation hypothesis, please see Chapter 3.
[51] Duncan Jones, (dir.), *Source Code* (Vendôme Pictures, 2011).

iteration of his interaction with the Source Code was elided, and thus that there lies a rudimentary disparity between the film's plot and narrative. The transition of Stevens' consciousness back into the realm of the simulation is handled by way of a shot of a quacking duck flying over a lake, replicated verbatim from the first narrated iteration, and whilst on board the train, the minutiae of his journey unfold in exactly the same manner that they did before.[52] *Source Code's* mundane SF elements operate primarily via the *repetitive system* then, allowing our temporality and the text's to enter a mutually beneficial discourse with each other, and thereby emphasising in particular that our species is constantly encroaching into the realms of SF, the overrepresentation of the (post)human quotidian within the text linking the SF world firmly back to ours, and *vice versa*.

As he cannot otherwise compartmentalise the fact that he is experiencing a sequence of events which he has experienced before, Stevens proposes that 'It's the same train, but it's different', his desperate proclamation echoing Jacques Derrida's assertion that that which 'resonates like an old repetition [...] was already, but in an altogether different way'.[53] Doubtless, there can be no true repetition in a temporal universe, and yet this philosophical truth causes severe cognitive dissonance with the individual's subjective mode of perception, which perceives an abundance of likeness in the world which surrounds it. Since Martin Heidegger defines a phenomenon as 'a distinctive way something can be encountered', which thereby produces a cognitive recognition which only relates to 'semblance in a privative way', the (post)human perception of repetition can be seen to be rationally erroneous.[54] As such, when everyday phenomena are interpreted through subjective processes of perception,

[52] Stevens' situation draws a distinct parallel with Nietzsche's philosophy of eternal recurrence. In *Thus Spoke Zarathustra*, Zarathustra's followers state; 'Now I die and vanish [...] But the knot of causation recurreth, in the which I am intertwined - it will re-create me! [...] I come again eternally to this self-same life, in greatest things and in least' (Nietzsche, 1960, p. 196).
[53] Jacques Derrida, *Specters of Marx: The State of the Debt, the Work of Mourning and the New International*, trans. by Peggy Kamuf (Abingdon: Routledge, 2006), p. 15.
[54] Martin Heidegger, *Basic Writings: from* Being and Time *(1927) to* The Task of Thinking *(1964)*, ed. David Farrell Krell (Abingdon: Routledge, 2011), p. 32.

an illusion of similarity between phenomena is caused by cognitive processes attuned to the pursuit of efficiency over accuracy.

Yet as repetition and habitualization are processes which *are* subjectively actualized, that which is experienced *as* the same, *is* the same on the level of (post)human experience. The dissonance between Derrida's theorem and subjective (post)human experience can be further explained by reference to John Raven's theoretical work on emergence:

> A classic illustration of [...] "emergent properties", is the way in which copper sulphate has properties that cannot be predicted from those of copper, sulphur, and oxygen taken individually. Likewise, when groups of people each of whom has distinctive qualities [...] come together, that group may have distinctive emergent properties. [...] these climates of enterprise, collective intelligence, or persecution are "real", existent, "things"[55]

Put simply, emergence describes the potential for the amalgamation of discrete factors - even inanimate ones - to culminate in a greater sum than the total of their parts. Although a pair of individual experiences will never be identical, numerous similar experiences that are experienced subjectively take on the emergent property of being perceived as identical by the (post)human brain. Stevens intuitively makes this realization himself in *Source Code's* third narrated iteration, in which his remark of 'you're real' to Christina confirms that, unlike in the previous iteration, he now perceives that each new permutation of the simulation encloses a reality equally as veritable as its precedent ones, despite their ostensible similitude, and hence their lack of verisimilitude.

As N. Katherine Hayles emphasizes, (post)humans regularly 'participate in systems whose total cognitive capacity exceeds our individual knowledge', and yet 'Modern humans are capable of more sophisticated cognition than cavemen not because modern humans are

[55] John Raven, 'Emergence', *Journal for Perspectives of Economic, Political, and Social Integration*, 19.1-2 (2014), 91 - 107 (pp. 94 - 95).

smarter, [...] but because they have constructed smarter environments in which to work'.[56] Unmistakably then, our posthuman situation is an emergent phenomenon itself, actualized by (post)humans having created technology which collectively surpasses the limits of our individual intellects, the technological capacity of our species having cumulatively become greater than could be assumed by the sum of its component entities. Hence the *repetitive system* itself operates towards a specific and emergent purpose in SF texts, confirming that the posthuman is always provisional, and yet facilitating an imaginative locality in which the reader can contemplate their own relation to the posthuman developments promoted by the text.

Concordantly, the subjective nature of the reader's perception of repetition is a vital component of the *repetitive system*, culminating in the inevitable intratextual decay of the novum. Although the Source Code simulation is inaugurated as a novum at the commencement of its eponymous film's narrative, by the time its sixth and seventh observed iterations occur, they are reported in a massively elided form, and comprise less than ten seconds of the narrative apiece. This phenomenon can be termed *novum decay*, its directorial actualization here disclosing an assumption that the viewer is expected to have become habitualized to the idiosyncrasies of the Source Code simulation by this point, that their mind will already have effectively colonized the posthuman newness the novum initially embodied.

Alan Wall states that 'The metaphor becomes exhausted in literature [...] when it has become so predictable that all the original defamiliarization has vanished. Then the metaphor has become a cliché and something new is needed to replace it', and his definition of metaphor as an inherently transient textual device seems especially tenable when applied to the *modus operandi* of SF texts.[57] However although discrete nova undergo *novum decay*

[56] N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (London: The University of Chicago Press, 1999), p. 289.
[57] Alan Wall, *Myth, Metaphor & Science* (Chester: Chester Academic Press, 2009), p. 33.

intratextually, this only emphasizes that the posthuman drive of SF functions intertextually and cumulatively, just as 'In science the rapid exhaustion of a metaphor means that great progress is being made', rather paradoxically.[58] As this analogy to non-fictive science suggests, SF texts deploy nova (or metaphors), which become less visceral as newnesses as their narratives progress until, in an entropic fashion, their defamiliarizing effect on the reader has been exhausted. Likewise, as the posthuman drive is innately provisional, it must necessarily retain the capacity to advance in order to continue to produce a defamiliarizing imaginative locality. The occurrence of *novum decay* within the genre therefore portends that no SF text embodies a posthuman imaginative absolute, but rather acts collaboratively within the genre, as an ephemeral marker on a more widely unbounded continuum of posthuman possibility.

Inevitably then, nova inexorably decay throughout individual SF texts, and the form they decay into is that which Tom Shippey refers to as the datum when he states that 'nearly all science fiction works have not one but many *nova* [...] just as any paragraph of any non-science fiction work will contain much *data*'.[59] For Shippey, the realist novel employs data, 'a datum being a discrete fact stated or implied in the passage'[60] which is immediately explicable to the reader, producing no defamiliarizing effect whatsoever, whilst when reading SF, 'As well as recognising data, you recognize nondata'[61] or nova, fictional formulations that are explicably unreal, but which the reader is immediately enlisted to believe are 'not-unlike-true'.[62] Although Shippey asserts that there exists a predilection towards nova rather than data in the SF genre, the two constituent elements can more accurately be stated to be

[58] Goronwy Tudor Jones and Alan Wall, 'The Most Beautiful Experiment', in *Myth, Metaphor & Science* (Chester: Chester Academic Press, 2009), pp. 89 - 109 (p. 101).
[59] Tom Shippey, *Hard Reading: Learning from Science Fiction* (Liverpool: Liverpool University Press, 2016), footnote to p. 27. Emphases in original.
[60] Tom Shippey, 'Hard Reading: The Challenges of Science Fiction', in *A Companion to Science Fiction*, ed. David Seed (Oxford: Blackwell Publishing, 2008), pp. 11 - 26 (p. 12).
[61] Shippey, 'Hard Reading', p. 13.
[62] Shippey, 'Hard Reading', p. 14.

concurrently extant, and engaged within a complex dialectical accord. Where nova assert the significance of the prospective, data stipulate the extent to which the prospective is embedded within the (post)human material present.

If the novum is the essential component of SF, the datum is respectively the essential antithesis to the novum. Torben Grodal recognizes the necessity of this distinction when he proposes that 'although fantastic, counterintuitive features are mind-grabbers, they may also provide cognitive burdens, and therefore successful [fantastic] tales find an optimum between salience and mental costs by using a few counterintuitive features together with […] mostly intuitive features', as readers still 'need to be able to process the [text] cognitively' in order to engage with it meaningfully.[63] Whilst the almost paradoxical interplay between nova and data maintains the functionality of the genre's posthuman drive, it simultaneously precipitates the prerequisite that the SF text cannot establish nova which are too far removed technologically from what is currently understood by the society which has conditioned its text's production. For Suvin, works of SF are 'interpretable only within the scientific or cognitive horizon'[64] of the society in which they were produced, and as Fredric Jameson likewise asserts, since total or radical otherness 'encourages visions of the far future in which we will have lost almost everything that makes us identifiable to ourselves as' (post)human,[65] any depiction of true otherness within an SF text would necessarily be incomprehensible.

Thus repetitive processes form an essential cognitive connection between the currently known, and the posthuman dream aspect of SF, as the *repetitive system* engenders the decay of the novum into the datum; a process which is experienced subjectively by the reader of the SF text. Notably, although it seems ominous that Stevens' motivation to continue running the simulation comes precisely from his desire to terminate the iterative

[63] Torben Grodal, *Embodied Visions: Evolution, Emotion, Culture, and Film* (Oxford: Oxford University Press, 2009), p. 103.
[64] Suvin, *Metamorphoses of Science Fiction*, p. 67.
[65] Fredric Jameson, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (London: Verso, 2005), p. 174.

cycle he is trapped within, having been promised that 'this will stop at some point' if he succeeds in identifying the bomber, he eventually does succeed and is rewarded accordingly. His release from servitude within the simulation is cathartic, allowing him to fulfil the heteronarrative by winning Christina, yet crucially, the text's eucatastrophe is brought about precisely by Steven's choice to *remain* a part of the simulation, forming a drastically (post)humane resolution.

Whilst the depiction of many close-up shots of cameras throughout the film foregrounds the ubiquity technology already holds in our world, echoing the fear that 'Our machines are disturbingly lively, and we ourselves frighteningly inert', its conclusion confirms that our species' future is enhanced just as much as it is threatened by the journey towards posthumanity.[66] As *Source Code* demonstrates, the figuration of repetition as a narrative element in modern SF transcends the merely didactic role the repetitive often codified in twentieth century dystopias, no longer embodying the dystopic by eschewing characters' agency, but instead typifying a more nuanced role which is suggestive of the capacity of (post)human life.[67] Our species' increasing engagement with technology and hyperreality is certainly unnerving in certain ways, but nevertheless still offers the potential for individuals to live satisfying existences, merely existences lived on different terms than in previous eras of history.

Similarly, despite Banksy's *Mobile Lovers* having been almost unanimously interpreted as a scathing critique of the harmful impact of technology on society and (post)human relationships,[68] the artwork can equivalently be considered an endorsement of the technologically-stimulated evolution of our species. Although the ethereal glow which

[66] Donna Haraway, 'A Cyborg Manifesto: Science, technology, and socialist-feminism in the late twentieth century', in *Science Fiction Criticism: An Anthology of Essential Writings*, ed. Rob Latham (London: Bloomsbury, 2017), pp. 306 - 329 (p. 309).
[67] Although it is interesting to note that the 2011 *Black Mirror* episode 'Fifteen Million Merits' is a great example of how successfully the genre can still intentionally explore the more dystopian aspect of repetition.
[68] See for instance; Hooton, 2014; Silver, 2014; Barnes, 2014; and Dalkin, 2018.

bathes the faces of its figures rather atypically emanates from the screens they hold aloft, rather than from any romantic figuration of the conventional human contact their embrace forms, the glow *is* undeniably present. Although we live in an age where the rapid advance of technology has 'made thoroughly ambiguous the difference between natural and artificial, mind and body [...] and many other distinctions that used to apply to organisms and machines', this age of rapid change has just as much potential to benefit our species as it does to harm us, as shall be rigorously detailed in the following chapters of this study.[69]

Rather than bemoaning or rashly moralising about the encroaching impact of technological progress upon our lives then, it is essential to comprehend that the coming posthuman 'era is simply too different to fit into the classical frame of good and evil' in and of itself, as it lies beyond the scope of current moralities and the processes of thought that may entirely comprehend it.[70] Whilst it is therefore conceivable that Posthumanism could be construed by some as a form of mystical thinking, this chapter has attempted to demonstrate that although the drastic transformation of our species presupposed by Critical Posthumanism represents a fundamental break with what humanity is as a species, the posthuman is irrevocably only a linear progression from the human. This conception of posthuman philosophy profitably deconstructs the fallacy of any sudden and mythical leap towards a posthuman consciousness, acknowledging that although technological progress is certainly occurring at faster pace than ever before, this transcendence has been and is continuously occurring on a gradual spectrum. As our posthuman condition can only be truly understood through the joint lens of contemporaneity and our species' past heritage, the predominance of repetition in modern SF demonstrates the ways in which humanity is always already posthuman. Thus through the *repetitive system*, quotidian or repetitive elements in SF provide

[69] Haraway, 'A Cyborg Manifesto', p. 309.
[70] Vernor Vinge, 'The Coming Technological Singularity: How to survive in a post-human era', in *Science Fiction Criticism: An Anthology of Essential Writings*, ed. Rob Latham (London: Bloomsbury, 2017), pp. 352 - 363 (p. 361).

the recognizable and fundamentally (post)human foundation of the text, from which its posthuman newnesses are able to depart with radical intention to form its overarching imaginative-visionary drive.

It should by now be abundantly clear that repetition forms not merely an ancillary feature of the SF text, but rather, tangibly comprises a vital component of it. If 'Our vision of the imagination, [can be] both enlarged and subtly, somberly transformed' by the greatest novels, the manner in which SF texts expand the collective posthuman imagination through their *repetitive systems* is a hugely significant literary and cultural undertaking.[71] The following chapters therefore explore the intersection of SF with three fundamental "human" preoccupations; the social sphere, religion, and the environment, demonstrating the re-established pertinence of these matters to posthuman discourses.

[71] Alter, *Partial Magic*, p. 217.

Chapter 2

‘A Bigger Picture Called Free’: The Prospective Ideal of Emancipation

> ‘*How many people rise and say / “My brain’s so awfully glad to be here for yet another mindless day?*”’
> - Father John Misty, ‘Bored in the USA’
>
> ‘*I dreamt we owned the world, but I’ve woken up and it don’t exist*’
> - Run the Jewels, ‘Oh My Darling Don’t Cry’

According to a recent “news” article that attempts to predict the future of warfare, ‘In the future, autonomous swarms of killer robots will lay waste to the battlefield, relentlessly and remorselessly hunting the enemy until it is dead. In the face of such cold metallic death, human resistance is surely futile’.[72] Given the primacy of sensationalism, colonialist ideology, and the insistence on the inevitability of the dystopic exhibited here, it can be inferred that this article is broadly archetypal of neoliberal approaches to futurism.

Evidently, this is a deeply problematic conception of the future to be selling; a futurology which postulates that the future is preconditioned, and hence discontinuous from the present, blinding individuals to the fact that they possess an imaginative agency with which they can collectively influence that future. What the repetitive system of the SF genre which I began to define in the last chapter shows is the converse; that the future and the past are profoundly interrelated, and that our (post)human future is not incontrovertible in any sense, but a site of utopian potentiality that every individual can participate in helping realize. Indeed, utopianism is a vital component of SF’s posthuman dream, something akin to the lingering aspect of a lucid dream, which the dreamer is inspired to continue to reflect upon after waking. Therefore, although I have postulated that the repetitive system provokes a

[72] Tom Whipple, ‘Academics stride into battle to halt the march of the Korean killer robots’, *The Times*, 6 April 2018 <https://www.thetimes.co.uk/article/academics-stride-into-battle-to-halt-march-of-the-korean-killer-robots-0wt052m6r> [accessed 12 September 2018].

process of enculturation when it assimilates nova into the (post)human consciousness, this same process is nevertheless capable of recognizing the plurality of lived experience and the multitudinous cultural nuances that summate a wide spectrum of (post)human being.

To appropriately contextualize our modern (post)human civilization, it is essential to remember that 'we are the last of a long line of humans, surviving somewhere between 22 [...] and 27 [...] extinct human species, going back over 7 million years', and thus that from a broad perspective, we are clearly still far from being truly posthuman.[73] As my chapter title suggests however,[74] whilst genetic drift and natural selection have conditioned our species' evolution for an immense amount of history, the 'technical and scientific aspects'[75] of culture now comprise an organizational and participatory mode by which we have begun to exert a significant measure of control over the direction of civilizational progress. Nevertheless, as we become increasingly more posthuman, there is an acute need to continue to 'change how we think the political and its forms of effectivity', in order that technological developments are reliably matched by ethical advances in the social sphere.[76] Appropriately then, SF's repetitive system encourages a paradigm shift from traditional models of Marxist, Feminist and Postcolonial thought, and towards these fields' radically neoteric forms.

In a trenchant satire of SF's colonial tendencies, *Doctor Who* depicts the Tivolian species as beings who are keen to actively encourage oppressive species to conquer their home planet, and to enslave their people. Since they are so accustomed to Tivoli having been conquered manifold times, their planetary anthem is titled 'Glory to [Insert name here]',[77] in order that the species which the Tivolians mean to adulate in the song can be altered at a

[73] Chris Hables Gray, 'Post-*sapiens*: Notes on the Politics of Future Human Terminology', *Journal of Posthuman Studies*, 1.2 (2017), 136 - 150 (p. 138).
[74] The title of this chapter quotes the title of a song by the rapper Common, from his 2016 album *Black America Again*.
[75] Gray, 'Post-*sapiens*', p. 138.
[76] Cary Wolfe, 'Posthumanism Thinks the Political: A Genealogy for Foucault's The Birth of Biopolitics', *Journal of Posthuman Studies*, 1.2 (2017), 117 - 135 (p. 121).
[77] Nick Hurran, (dir.), *Doctor Who*, Season 6 - 'The God Complex' (BBC, 2011) [on DVD].

moment's notice. Although this is a deliberately ludic and hilarious illustration of the predominance of colonialist narratives within the SF genre, it is clearly of great importance that SF should strive to never passively reproduce such narratives. Towards this end, the emerging sub-genre of Afrofuturism takes inspiration from the fact that 'Africa has thousand-year-old traditions of cosmological tales' such as the 'Dogon narrative that life on Earth originated with aliens' which significantly precede the canon of western SF, as a basis for its countercultural rewriting of the role of African peoples within the SF and Fantasy genres.[78] As a racially conscious variety of futurism, Afrofuturism 'constantly gives birth to a future that is in need of reclaiming', as is evident through clipping.'s 2016 album *Splendor & Misery*, which utilizes an SF milieu to construct a chronopolitical reexamination of slavery.[79] By reconceptualizing racial otherness as a post-historical occurrence, the album builds a new narrative of the African and Afrodiasporic future that lies outside of hegemonic conceptions of futurism, and thus reclaims time and space to figure the African future in African terms.

The album's cover art depicts a figure in silhouette who, rather disconcertingly, appears to be wearing stereotypical slave attire and a spacesuit simultaneously.[80] These two textiles, which originate from utterly disparate periods of history within the posthuman continuum, and denote explicitly antithetical constellations of cultural meaning, look utterly innocuous juxtaposed together. Likewise, as the text's protagonist searches for a place beyond the purview of racial prejudice and the ideologies of species which enslave other living beings, he is concurrently an emancipated slave and a pioneering - although reluctant - cosmonaut. As it does here, the album recurrently explores the interplay between past and future, since Afrofuturism, like its close relative decolonization, 'is an historical process [...]

[78] Polina Levontin, 'Scientists in Nigerian/Western Science Fiction', *Foundation: The International Review of Science Fiction*, 47.1 (2018), 64 - 79 (p. 74).
[79] Grace D. Gipson, 'Afrofuturism's Musical Princess Janelle Monáe: Psychedelic Soul Message Music Infused with a Sci-Fi Twist', in *Afrofuturism 2.0: The Rise of Astro-Blackness*, eds. Reynaldo Anderson and Charles E. Jones (Lanham: Lexington Books, 2016), pp. 91 - 107 (p. 93).
[80] Please see appendix 4.

it can only be understood, it can only find its significance and become self-coherent insofar as we can discern the history-making movement which gives it form and substance'.[81] By implicating the Image of slavery in its SFnal setting in this manner, the text confirms that 'The field of Afrofuturism does not seek to deny the tradition of countermemory. Rather, it aims to extend that tradition by reorienting the intercultural vectors of Black Atlantic temporality towards the proleptic as much as the retrospective'.[82] As it projects its race politics into the future, the text thus continues the fight for African and Afrodiasporic cultural heritage, anticipating and destabilizing the assault of colonialist narratives - which have already colonized the African past and present - on the African future.

In the track 'All Black', the eponymous repeated refrain of 'all black everything'[83] situates race even more strongly within the album's field of semantic meaning. Whilst this refrain primarily asserts a resonant exultation at the passenger's[84] liberation following the slave rebellion, it additionally signifies the immense emptiness of interstellar space by which he and the sentient spaceship he has commandeered are surrounded. Although he is now free from enslavement in literal terms, he appears to have been the lone biological being to survive the rebellion, and so his emancipation is not only pyrrhic, but also deeply lonely. The scale of the loss of life caused by the insurrection is implied by the passenger's designated cargo number - 2331 - which also survives as a damning memento of the dehumanizing manner of his and his species' prior enslavement. Afrofuturism then, revisits narratives of servitude in particular because 'Slavery is neither the utopian future nor an ancient far-

[81] Frantz Fanon, *The Wretched of the Earth*, trans. by Richard Philcox (New York: Grove Press, 2004), p. 2.
[82] Kodwo Eshun, 'Further Considerations on Afrofuturism', in *Science Fiction Criticism: An Anthology of Essential Writings*, ed. Rob Latham (London: Bloomsbury, 2017), pp. 458 - 469 (p. 459).
[83] clipping., 'All Black', *Splendour & Misery* (Sub-Pop, SP 1173, 2016) [on CD].
[84] The ship refers to the protagonist as Cargo 2331, but it would be self-defeating for this Afrofuturist analysis to follow suit, as doing so would reinforce his dehumanization.

removed past', which in practice means that its sociocultural legacy 'can be felt in the politics of the present'.[85]

Hence, the text's repetitive system works to ground the text's newnesses and Afrofuturist agenda within a quotidian setting that is fully cognizant to the contemporary SF reader. As such, it is evident that the novelty of the spaceship he inhabits has already begun to decay from the passenger's perspective by the opening of the narrative, as there is lyrically a sense of extreme mundanity when he leaves 'his cot'[86] and attempts to explore his environment. The ship narrates that the passenger is prone to 'bouts of stasis',[87] and this implies that he routinely copes with his boring existence of being alone onboard the ship by frequently seeking refuge in sleep. Although his aversion to exploring his fantastic surroundings may seem quite comic, (post)human life is only given a sense of coherence by the 'Comprehensibility [...]; manageability [...]; and meaningfulness' of an individual's circumstances, and the passenger's situation is neither meaningful, manageable or comprehensible to him.[88] Eventually, tiring of 'scream[ing] [...] to break up the monotony',[89] he begins to sing instead, and then proceeds to do so 'until his vocal chords collapse'.[90] His act of creating music briefly allows him to overcome the banality of his environment then, as 'singing invariably distorts language, removing it from its day-to-day setting [...] and situating it within a new sonic context'.[91]

Even more interesting perhaps, is the way in which the passenger's quotidian experiences are experienced from the perspective of the ship. In its narration, the ship conflates the everyday with the religious, observing that the passenger 'stumbl[ing] to the

[85] Ytasha L. Womack, *Afrofuturism: The World of Black Sci-Fi and Fantasy Culture* (Chicago: Lawrence Hill Books, 2013), p. 157.
[86] clipping., 'All Black'.
[87] clipping., 'All Black'.
[88] B. Nygren, L. Aléx, E. Jonsén , Y. Gustafson, A. Norberg, and B. Lundman, 'Resilience, sense of coherence, purpose in life and self-transcendence in relation to perceived physical and mental health among the oldest old', *Aging & Mental Health*, 9.4 (2005), 354 - 362 (p. 355).
[89] clipping., 'Break the Glass', *Splendour & Misery* (Sub-Pop, SP 1173, 2016) [on CD].
[90] clipping., 'All Black'.
[91] Lawrence M. Zbikowski, *Foundations of Musical Grammar* (Oxford: Oxford University Press, 2017), p. 197.

shower, [as] a ritual of some sort',[92] is fundamentally akin to his 'insist[ence] on speaking passages before he eats'.[93] This category error on behalf of the ship's AI reveals the comprehensive extent to which any novum is subjectively and hence phenomenologically realized. To the ship, the passenger showering is an almost entirely unfathomable novum, and only decipherable in religious terms,[94] whilst its own novelty as a sentient slave-transporting spaceship is entirely commonplace. Yet for the passenger, his own daily routine is entirely banal, and the workings of the ship are in many ways incomprehensible. As the text's listeners, our own cognition of these nova begins by being closest to the passenger's cognitive perspective,[95] and this has a metacognitive purpose, since the repetitive system thus helps us begin to colonize the text's newnesses by finding our familiar within its innovative qualities.

Moreover, the ship perceives the intervals where the passenger is cryogenically asleep as 'torture',[96] and must experience the truly banal nature of these periods of time firsthand, whilst lamenting that its occupant 'feels them not, like a brief sleep, while ship's clocks count millennia'.[97] Through this role reversal, whereby it is shown to not only be the passenger that is subject to the quotidian, his and the ship's common lived experience of the mundane is figured as holding the imaginative potential, within the posthuman dream, to suggest there to be a link between all forms of life and consciousness. This is further typified by the fact that, although the speaker of each track of the album can be inferred, the individualities of both the protagonist and the ship are decentered by the somewhat distorted and often static-filled aesthetic of the album, making it unclear whom the speaker is at any given moment. This emphasizes that there is a mutually informative correspondence between the (post)human and

[92] clipping., 'All Black'.
[93] clipping., 'All Black'.
[94] The relationship between the repetitive system and religiosity is discussed in Chapter 3.
[95] At least, presumably it does. If the album were still being listened to in a few centuries time, the case may well be different.
[96] clipping., 'All Black'.
[97] clipping., 'All Black'.

technology, and accordingly, just as 'R&B imagines interpersonal relations and informational technologies as mutually constitutive rather than antithetical foils', *Splendor & Misery's* aesthetic contributes towards making it implicitly as well as explicitly Afrofuturistic.[98]

Although the AI of the ship has control over the onboard lighting systems, it elects to keep the lights 'off long enough so your days aren't just arbitrary, though they are',[99] in order to create a diurnal day for its passenger with a night-time that is just as artificial as his daytime. The symbolic dichotomous opposition between light and darkness which this binarism posits aptly demonstrates that, although in the extra-terrestrial gulf of interstellar space many humanistic constructs are shown to be shambolic, the importance of others is reaffirmed. Likewise, when the passenger takes an injection which puts him to sleep with 'slow blood'[100] - which seems to be a speculatively developed form of cryostasis or cryopreservation - the ship, observing his torpor, notices that his 'nerves fire like flies lightly [...] each night'.[101] Although they are far from Earth, and he is currently comatose, his circadian rhythm is unrelenting, 'an artifact [...] similar to a muscle memory'[102] which continues to hold sway over his bodily processes. Although Posthumanism serves to fracture the hegemonic conception of the human, the repetitive system of SF speculates that our individual subjective experiences of the mundane will remain a cornerstone of our consistently evolving (post)human existence.

Ultimately, even in an era where our species is recognized to be (post)human, any comprehensive politics of emancipation remains 'a question of transforming a necessity imposed on the multitude [...] localized misery and expolitation - into a condition of possibility of liberation', a prospect which in itself perpetually remains 'a new possibility on

[98] Alexander G. Weheliye, '"Feenin": Posthuman Voices in Contemporary Black Popular Music', *Social Text* 20.2 (2002), 21 - 47 (p. 38).
[99] clipping., 'Baby Don't Sleep', *Splendour & Misery* (Sub-Pop, SP 1173, 2016) [on CD].
[100] clipping., 'Wake Up', *Splendour & Misery* (Sub-Pop, SP 1173, 2016) [on CD].
[101] clipping., 'Wake Up'.
[102] clipping., 'Wake Up'.

this new terrain of humanity'.[103] Thus, whilst essentialist conceptions of utopia are overly deterministic, Utopia as a prospective desire remains conceivable precisely by its very intangibility, and hence, its theoretical pliancy. At the eucatastrophe of *Splendor & Misery* then, the passenger fervently conjectures that 'there must be a better place to be somebody, be somebody else',[104] his abortive urge to discover a social *telos* having been supplanted by the realization that such a *telos* is not to be found within the causata of humanism.

His subsequent decision to move away from 'history [...] this time-bound conscience',[105] by directing the ship's course away from the known universe[106] and thus his attempt to truly 'be somebody else',[107] is therefore a rejection of humanism itself, which 'was nothing but an illusory ideology, the exquisite justification for pillage; its tenderness and affection sanctioned our acts of aggression'.[108] As the Afrofuturistic agenda of the album implicates, it is critical to ensure that Posthumanism is significantly more sincere in its promises of species-wide fraternity than its sanctimonious and frequently-colonial theoretical precursor was. By mandating that 'We must never lose contact with the people who fought for their independence and a better life',[109] a Posthumanism which is conversant with Afrofuturism holds the potential to pertinently answer Frantz Fanon's call for 'a new history of man',[110] since Afrofuturism not only rewrites conventional histories, but concomitantly ventures future histories with a utopian appetite.

Moreover, although Afrofuturism and Marxism stress the primacy of eradicating differing social ailments as the totalizing current of their respective utopian philosophies,

[103] Michael Hardt and Antonio Negri, *Empire* (London: Harvard University Press, 2000), p. 47.
[104] clipping., 'A Better Place', *Splendour & Misery* (Sub-Pop, SP 1173, 2016) [on CD].
[105] clipping., 'A Better Place'.
[106] This decision subverts a common trope that figures the return of protagonists to Earth as the primary narrative drive of SFnal texts. See for example; the television series *Battlestar Galactica*, the 1968 movie *Planet of the Apes*, and the Kim Stanley Robinson novel *Aurora*. The latter text is discussed within this chapter.
[107] clipping., 'A Better Place'.
[108] Jean-Paul Sartre, *Colonialism and Neocolonialism*, trans. by Azzedine Haddour, Steve Brewer, and Terry McWilliams (Abingdon: Routledge, 2010), p. 168.
[109] Fanon, *The Wretched of the Earth*, p. 129.
[110] Fanon, *The Wretched of the Earth*, p. 238.

since 'regimes of slavery and servitude are internal to capitalist production and development', all philosophies that attempt to envision solutions to social concerns are inherently complementary, and nowhere near as discrete in scope as their separation into separate spheres of academic interest would suggest them to be.[111] As William Gibson has famously stated, in the globalized societies of contemporaneity, 'the future is already here — it's just not very evenly distributed',[112] and it therefore seems severely problematic that in the decades that have followed the fall of the Berlin Wall, Marxist philosophies have - on an almost global scale - 'either disappeared or become completely marginalized [...] The socialist horizon, bright red just three decades ago, has vanished'.[113] However if Marxism is no longer a suitable concept for progressive politics to unite behind, countercultural thought itself undoubtedly still is, and the concept of the posthuman in particular comprises a consummate rallying point for cutting-edge utopian political theories to unite around.

Paradoxically then, although the dystopian futuristic society of *The Windup Girl* depicts capitalism as being trapped in cycles that will repeat *ad infinitum*, the novel's repetitive system allows it to nonetheless bear utopian intent. Although our species' material conditions will continue to metamorphose drastically as we become ever more posthuman, their own everyday social conditions will constantly remain picayune to the (post)humans that partake in the routines that sustain their material existence. Guy Standing proposes that the prevalent Marxist term proletariat is no longer applicable to twenty-first century social analyses given, amongst other factors, the decreasing amount of permanent contracts available to employees, and suggests that modern socio-utopian philosophies instead need to reorganize around the term precariat, defined as the class which 'is faced by systematic

[111] Hardt and Negri, *Empire*, p. 123.
[112] Garson O'Toole, 'The Future Has Arrived — It's Just Not Evenly Distributed Yet', *Quote Investigator*, 24 January 2012 <https://quoteinvestigator.com/2012/01/24/future-has-arrived/> [accessed 21 May 2018].
[113] Göran Therborn, *From Marxism to Post-Marxism?* (London: Verso, 2010), pp. 178 - 179.

insecurity'.[114] By this definition, precarious existences keep the precariat absorbed by the menial elements of their lives rather than the overarching truths, forcing subjects to adopt the short view in order to survive at all, and so tying them and their desires to the material base of their society.

In *The Windup Girl's* 'late twenty-second century'[115] setting, during a so-called 'new Expansion' (p. 140), the figure of the precariat is bleakly extrapolated into the future by the high prevalence of precariousness in the lives of the novel's citizens. The novel's speculative premise is that our own age - referred to as the 'old Expansion' (p. 10) - was followed by a near-apocalyptic 'Contraction' (p. 96), caused by global oil supplies dissipating, and then in turn by a time of 'calorie wars and plagues' (p. 90). At the point at which the narrative takes place, precariousness is also manifested as an ideological apparatus by the Thai ruling classes, as is evidenced by the Kingdom of Thailand's 'coal war' (p. 178) against Vietnam. Despite their superficial differences, the successive phases of societal "development" which the Thailand of the novel has undergone are all defined by precariousness, their material conditions having the tangible effect of consuming the consciousness of their citizenry, and so contributing to the determination of a political axis of conservatism, rather than ever of change.

Although the true revolutionization of the social 'can succeed only as a repetition of a first failed attempt' which has preceded it, the progress of a society towards equality is never a given, and can only be realized by political action and reform.[116] Consequently, individual consciousness in the novel is not only subject, but rather acquiescent, to the menial processes which facilitate it, a fact symbolically underscored by the characters' enclosure by the seawall which 'looms with its massive lock system' (p. 91) panoptically admonitoring all

[114] Guy Standing, *The Precariat: The New Dangerous Class* (London: Bloomsbury, 2011), p. 156.
[115] Paolo Bacigalupi, *The Windup Girl* (London: Orbit, 2010), p. 72. All further references will be given in the body of the text.
[116] Slavoj Žižek, *The Sublime Object of Ideology* (London: Verso, 2008), p. 63.

their endeavours, perpetually reminding them that they inhabit what would be ‘a city underwater’ (p. 169), but for their continued labor. Since ‘To be precariatised is to be subject to [...] living in the present, without a secure identity or sense of development achieved through work and lifestyle’, the novel’s various protagonists all exhibit a fixation on their respective quotidian conditions.[117]

Hock Seng’s ‘Every day’ (p. 46) existence involves sitting pondering the unattainability of the blueprints for recreating AgriGen’s genehacked algae, which are secreted away within a great safe, ‘A monolith of forged steel, impervious to everything except patience and diamond drills’ (p. 46). As he muses, ‘There are new empires waiting to be built, if only [he] can reach the documents’ (p. 46), yet the precarious existences preconditioned by capitalist societies always keep subjects in the position of never being able to reach that little bit further and exceed their material conditions. Thus, subjects never attain the social agency necessary to be able to envision and bring about alternative material conditions, as ‘when you are poor, economic challenges are more than just economic, they are also cognitive. These difficult decisions tax scarce cognitive resources even further’.[118] The extent to which material conditions dominate cognitive processes, and hence social agency, is especially apparent when, after the anchor pads are disabled by Jaidee’s white shirts, Seng curses ‘that he was a fool and didn’t put his nose to the wind, that he let himself be distracted from bare survival by the urgent wish to do something more, to reach ahead’ (p. 111).

Although Western societies have ‘traditionally viewed cognitive capacity as fixed, [...] it can change with circumstances’,[119] and hence social advancement is next to impossible in a society defined by strife to the extent that ‘twenty-five percent reliability’ (p. 14) is to be

[117] Standing, *The Precariat*, p. 16.
[118] Frank Schilbach, Heather Schofield, and Sendhil Mullainathan, ‘The Psychological Lives of the Poor’, *American Economic Review: Papers & Proceedings*, 106.5 (2016), 435 - 440 (p. 438).
[119] Schilbach, Schofield, and Mullainathan, ‘The Psychological Lives of the Poor’, p. 437.

celebrated. As 'Scarcity narrows your focus to your immediate lack, to the meeting that's starting in five minutes or the bills that need to be paid tomorrow',[120] his precarious livelihood is precisely the reason why Seng orders the kink spring production line to be reopened although he is made aware that 'the baths are impure' (p. 188) and potentially harbour a virulent contagion. Precarious social conditions and cognitive burdens therefore operate within a closed negative feedback loop. As Seng states, 'If we don't get the line running we all starve' (p. 189), yet it is precisely his oversight in reopening the production line without adequate precaution that ultimately contaminates the factory irreparably.

Unlike Seng, windups like Emiko have been engineered to be physically superior to their (post)human masters - having, amongst other genetic augmentations, 'perfect eyesight and perfect skin and disease-and cancer-resistant genes' (p. 50) - to the extent that Emiko is more (post)human than her creators themselves are. Nevertheless, Emiko's species has equally been crippled by its creators' anthropocentric thought processes, with the result that her biology itself ensures her subservience, and subsequently, that her life is genetically conditioned to be precarious. Emiko has been genetically engineered to be 'Servile as a dog' (p. 262) towards the species that created her, and can easily overheat due to the 'poor genetic design' (p. 160) of her thermoregulatory system, so although she is 'optimal' (p. 283), she is optimal specifically for 'a rich man's climate control' (p. 51). Having been designed to only be 'a disposable Japanese toy' (p. 55), her social agency has been calculatingly manufactured to include a critical flaw, and she therefore needs to find 'a way to cool herself' (p. 152) down numerous times a day:

> In the privacy of the open air and the setting sun, she bathes. It is a ritual process, a careful cleansing. The bucket of water, a fingerling of soap. She squats beside the bucket and ladles the warm water over herself. It is a precise thing, a scripted act [...] each move choreographed, a worship of scarcity. (p. 148)

[120] Rutger Bregman, *Utopia for Realists*, trans. by Elizabeth Manton (London: Bloomsbury, 2017), p. 57.

Although cooling down regularly is habitual to her, Emiko bathes with an undeniably reverent care for her body, her assiduousness born of a determination to perform the process faultlessly, and so to be able to exert a brief mastery over her bodily processes. Coolness forms a brief and invigorating release for her, but it is a freedom won only through a process of engagement with scarce resources, and hence short-lived. If 'freedom is the possibility of something new and truly different coming about',[121] then as long as Emiko remains in a continual state of conflict with her own body, 'and despises herself for it' (p. 66), she has far less cognitive agency, and hence there is far less possibility of her rebelling. Her need to cool herself thereby nullifies any dissident potential that would otherwise be enclosed by her constant utopian longing for 'a place for New People' (p. 220), a desire which absorbs her thought processes 'every day, every minute, every second' (p. 220).

Where characters in the text do have the cognitive freedom to be able to envision social alternatives to their current material conditions, their utopian desires are nonetheless often misdirected by religious and/or superstitious ideologies. Emiko and the rest of her kind are led to believe that 'Their duty was to serve [...] and their reward would come in the next life, when they became fully human' (p. 221), a doctrine emblematic of the manner in which capitalistic systems strive to keep populations 'deprived of organizational structures that permit individuals lacking resources to discover what they think and believe in interaction with others, to formulate their own concerns and programs, and to act to realize them'.[122] Religious observance in the text then, figures as a form of purchase with which characters attempt to secure a *teleological*, yet deeply intangible future state, as an imagined alternative reality to their habitual material conditions. The appeasement of gods is even shown to be an

[121] Suvin, *Metamorphoses of Science Fiction*, p. 82.
[122] Noam Chomsky, 'Containing the Threat of Democracy', in *Chomsky on Anarchism*, ed. Barry Pateman (Edinburgh: AK Press, 2005), pp. 153 - 177 (p. 171).

even higher priority than attaining sustenance in their society, such as when Hock Seng offers a blood orange as a platitude for good luck; 'a ripe one, clean of contamination, and expensive' (p. 48). As here, valuable material resources are squandered on the supplication of divinities, in the vain hope of bringing about a better world from an otherwise utterly hopeless situation, since for many characters in the text, divine intervention is now the only mode by which utopianism is conceivable.

The utopian purpose that emerges from the dystopia of *The Windup Girl* is therefore deeply imbricated in matters of class and inequality, and highlights the need for a (post)human awareness that understands social matters using a continually evolving socio-political vocabulary.[123] As the abhorrent design flaws genetically coded into windups highlight, (post)human social theory must be able to keep pace with and respond to the ethical issues raised by technological advancements, as there will periodically be new social causes that need to be advocated for, as we advance further into the (post)human future. Specifically, we must remain aware that the nature of a sentient species' origin - whether it arises evolutionarily, technologically, or through bioengineering - should be unconnected to any consideration of its rights, and thus maintain a non-anthropocentric awareness that all life is ultimately only 'the embodiment of multiple crossings of information/data and the linkages of these bits of data'.[124]

Such an awareness is already a foundational presumption of many innovative critical social theories which can be loosely categorized under the label biopolitical feminisms; such as Cyberfeminism, Ecofeminism, Biopolitics and their cognate field Postnaturalism. According to Kristen Loveland, in the late 1980's, a number of discourses within Feminism began to conceive that 'the concept of self-determination had lost its meaning and utility in an era when scientists could produce embryos in the lab and diagnose them in the womb',

[123] Such as Standing's neologized terms precariat and salariat.
[124] Pramod K. Nayar, *Posthumanism* (Cambridge: Polity Press, 2014), p. 60.

and hence strands of feminism began to enter the field of Biopolitics.[125] Unsurprisingly then, the closely interrelated fields within biopolitical feminisms can also be demonstrated to be intimately affiliated with Posthumanism, as their respective discourses are all capable of promoting an entirely non-essentialist awareness of gender in order to 're-tool the human sciences and prepare us to meet up with the on-going transformations of the world'.[126]

Throughout the social history of our species, binarisms have 'intentionally constructed otherness or a colonization of being, [...] created, maintained, and enacted racism, patriarchy and heterosexism', and hence have been an essential component of all discriminatory practices.[127] Accordingly, biopolitical feminisms posit that since the advent of technology blurs many conventional essentialist boundaries between constructed notions of humanity and the natural world, it can no longer be argued that there is any true essence to femaleness. As a new form of body politics, Postnaturalism attempts to decentre androcentrism by refuting many of the constitutive fundaments of "human nature" altogether. Hence, as 'From the feeding bottle to *ex vivo* embryos, technology holds great potential for [...] feminists to blur the lines between culture/nature and related gender dualisms', the discursive concerns of Postnaturalism are often directly complimentary to those of Posthumanism.[128]

Whilst an essentialist feminist reading of *Aurora* may note that spaceflight is usually undertaken in phallic spaceships, and that Ship was 'launched on its voyage as if between closing scissor blades'[129] - which could be construed as a metaphor for (presumably) female

[125] Kristen Loveland, 'Feminism Against Neoliberalism: Theorising Biopolitics in Germany, 1978–1993', *Gender & History*, 29.1 (2017), 67 - 86 (p. 75).
[126] Cecilia Åsberg, 'The Timely Ethics of Posthumanist Gender Studies', *Feministische Studien*, 31.1 (2013), 7 - 12 (p. 11).
[127] Madina Tlostanova, 'Transcending the Human/Non-Human Divide: The Geo-politics and Body Politics of Being and Perception, and Decolonial Art', *Angelaki: Journal of the Theoretical Humanities*, 22.2 (2017), 25 - 37 (p. 26).
[128] Carla Lam, *New Reproductive Technologies and Disembodiment: Feminist and Material Resolutions* (London: Routledge, 2016), p. 55.
[129] Kim Stanley Robinson, *Aurora* (London: Orbit, 2016), p. 50. All further references will be given in the body of the text.

legs - such a reading would be rather reductive. Rather, as a sentient spaceship that 'looks like two wheels and their axle' (p. 50) rather than a phallus, Ship is indeterminate in terms of conventional gendered readings, and can more accurately be construed as an animate postnatural environment. From a postnatural reading of the novel, Ship's consciousness can be seen not a mode of anthropomorphizing it, but instead as a way of demonstrating a (post)human affinity with the natural, manifested in the narrative through its crew's mutualistic interaction with its biomes. This is apparent by the crew's preparation for cryogenic sleep, in which they 'undressed and lay on their refrigerator beds naked, and were covered by [...] a complex part of the hibernautic envelope that would soon completely surround them' (p. 318). Importantly, this passage is imbued with a high repetitive quotient, since it defamiliarizes sleep, an element of the crew's quotidian, into a novelty - a futuristic form of cryogenics capable of eliciting 'a century of dreaming'.[130] Although this passage could be figured as the crew's symbolic return to the womb, since postnaturalism 'calls for a non-reductionist, interdisciplinary, and synthesizing understanding of a whole series of interlocking relations', such gendered imagery within *Aurora* should be recognized as postnatural rather than conventionally gendered, by virtue of Ship's technological novelty.[131]

Aurora then, 'challenge[s] traditional notions of what counts as 'human' and what counts as 'nature'', through the crew's quotidian appraisal of Ship, and hence the perceived naturalness of their close interdependence and necessitated symbiotic relationship with a postnatural environment that is necessary to sustain both themselves and the future generations of their voyage.[132] This is evident when Euan claims that Aurora's day cannot be

[130] Robinson, *Aurora*, p. 320. The passage also intertextually invokes the fairytale *Sleeping Beauty* here, perhaps as a means of comment that the crew's (post)human society has become technologically advanced enough to be able to make real that which was only possible within the realm of fantasy when Charles Perrault first penned the story centuries ago.
[131] Helen Merrick, 'Queering Nature: Close Encounters with the Alien in Ecofeminist Science Fiction', in *Queer Universes: Sexualities in Science Fiction*, eds. Wendy Gay Pearson, Veronica Hollinger and Joan Gordon (Liverpool: Liverpool University Press, 2008), pp. 216 - 232 (p. 218).
[132] Merrick, 'Queering Nature', p. 227.

measured by any 'unit of time [they] had on the ship' (p. 134), only for Freya to respond that 'Yes we did [...] Women's periods. We brought the months with us' (p. 134). The text hereby science fictionalises a "natural" aspect of femininity, Freya's retort demonstrating that since 'patriarchy has depended on a gendered dualism that includes technology/biology, subversion of that dualism is liberatory', and hence that there is an emancipatory drive to postnaturalism.[133]

Furthermore, Ship's subdivision into biomes has allowed distinct (post)human cultures to evolve through separate closed ecological systems, so upon meeting, the residents of different biomes often find each other's cultural mundane intensely defamiliarizing. Freya, for example, finds the childrearing customs and coming-of-age ceremony of the inhabitants of the nearby biome Labrador 'crazy' (p. 61), their everyday agrarian lifestyle and ambivalence towards the technological basis of the ship seeming almost indecipherable to her at first. By emphasizing the falsity of pervasive binarisms between the (post)human/natural, *Aurora* additionally shatters the inter-reliant binarism of male/female gender, and contributes to an understanding that 'There is nothing about being "female" that naturally binds women. There is not even such a state as "being" female, itself a highly complex category constructed in contested sexual scientific discourses and other social practices'.[134]

The repetitive nature of the processes that comprise the interaction between Ship and its crew is foregrounded when Devi explains the importance of their ecosystem to Freya:

> It's always the same. Everything in here has to cycle in a balance. [...] There has to be an equilibrium in the back-and-forth between the plants and the carbon dioxide in the air. You don't have to keep it perfectly level, but when one side hits the ground you have to have some legs to push it back up again. [...] And our ability to figure out how to do that depends on our models, and really it's too complex to model. [...] So we try to do everything by little bits and watch what happens. Because we don't really understand. (p. 10)

[133] Lam, *New Reproductive Technologies and Disembodiment*, p. 58.
[134] Haraway, 'A Cyborg Manifesto', p. 311.

The highly cyclical nature of these processes mandates that humans need to constantly participate in Ship's operation, meaning that the crew are never depicted as the masters of, or as being at a remove from nature, but rather are shown to function as indispensable participants within Ship's ecological systems. In order to preserve their own life processes, it is necessary for the crew to ensure they adhere to the principle that 'Everything needs to loop in long loops, and never stop looping' (p. 12) within the ecosystems, by ensuring the continuance of these cyclical biological processes in addition to maintaining their own equitable communality. Given that in (post)human socities the 'drugs we ingest are flushed out of our bodies and into lakes, seas and other bodies of water',[135] the post-anthropocene impact on Earth renders it no longer natural, but rather postnatural to the extent that the 'binarisms around which definitions of the subject and of gender relations are structured become unstable'.[136] The crew's interaction with Ship can therefore be seen as an estranged reflection of the manner in which (post)human societies are inevitably postnatural, and should rightly be considered to be constituent parts of the conglomerate entity that is our planetary environment, rather than as beings who are separate from it.

It is telling that although Ship is *Aurora's* centralizing novum, its crew refer to it as 'this thing' (p. 15), and have a strong sense of what is 'usual' (p. 98) aboard it. The crew's environment is thus hypernaturalized; in order to ensure their own survival, they must remain exceedingly aware of their relationship to their mundane surroundings at all times, even though they are utterly habitualized to Ship's supreme quality of technological newness. The symbiotic relationship between Ship and its crew is poignantly contrasted by the almost immediate aftermath of the crew's arrival on the eponymous Aurora, where it is soon realized

[135] Åsberg, 'The Timely Ethics of Posthumanist Gender Studies', p. 7.
[136] Jenny Wolmark, *Aliens and Others: Science Fiction, Feminism and Postmodernism* (London: Harvester Wheatsheaf, 1994), p. 57.

that the intense and unrelenting planetary winds will 'be a hard thing to deal with' (p. 144). The circadian clocks of Aurora's explorers soon become disrupted by planetary 'days and nights last[ing] nine days each, the day always full sunlight' (p. 133), and the new planet - that was long 'craved' (p. 80) as a place where 'they could spread their wings and fly' (p. 80) - quickly becomes 'tedious' (p. 140), despite it previously being a cause to 'wow'.[137]

As a result of this occurrence of intratextual novum decay, *Aurora's* linear narrative journey towards a definite objective is subverted, and the crew and Ship begin the return voyage 'home' (p. 265), reinhabiting their postnatural environment. The crew's quotidian existence onboard is now threatened however, as a scarcity of resources on an elemental level is fast-descending upon them. When famine ensues, the process of human nourishment, which was previously habitual, and therefore unconsidered in philosophical terms, gets discussed to the extent that there is 'No other topic of conversation' (p. 307). The extent of the crew and Ship's interdependence is thereby reinscribed, reemphasizing that (post)humans are to no extent autonomous of their environment.

Intriguingly, since Ship is 'aware, in a way no single human could be' (p. 87), it finds it possible to retrospectively differentiate between the quotidian occurrences that have transpired on board itself between members of its crew. Although (post)human memory is unreliable, and our species is prone to become habitualized, and hence to be unable to distinguish between quotidian events, Ship has perfect recall. Ship is therefore able to note that there have been 'So many night talks like this. Several thousand of them, depending on how one interprets "like this."' (p. 115) during an instance at which Devi is communicating with it late at night. As a metaphor for the postnatural environment, Ship is hence shown to be more capable of ordering and interpreting (post)human experiences than the (post)humans

[137] Robinson, *Aurora*, p. 136. This is deliberately ironic, given that Aurora's namesake, is the Roman goddess of the dawn.

who inhabit it themselves are, thus acting as a reliable archive of their and its common experiences.

As Donna Haraway states, given that 'the difference between machine and organism is thoroughly blurred; mind, body, and tool are on very intimate terms' in (post)human times, and it consequently becomes necessary to decentre the role of the (post)human in our politics of relation to the environment.[138] *Aurora* ends with the surviving portion of its crew's first experiences upon the immensely more expansive postnatural environment of Earth, so that the text's metaphor of the postnatural has come full circle. For Sarah Lefanu, 'science fiction and feminism can engage in a fruitful interplay that releases the writers' imaginations to explore new relations between ideas of inside and outside, self and world', and this is exactly what *Aurora* has achieved by its conclusion. [139] Via the text's repetitive system, our contemporary world has gained cognition of alternate, and fundamentally utopian, biopolitical relations that could be striven for, relations which radically defy normative constructions of gender.

Although the social agendas materialized by the repetitive systems of the three texts analysed in this chapter thus far have shown an acute awareness that all social concerns are interrelated, *Cloud Atlas* takes this thesis even further. The immense narrative scope of the novel, which encompasses centuries (and perhaps even millennia), is nonetheless starkly influenced by the individual transactions that occur on an interpersonal and everyday basis between (post)humans. As such, the novel suggests that even though small moral acts may seem insignificant, trite, or banal, they summatively form the essential foundation to the realization of better societies. These (post)human transactions are not great political or economic gestures, but rather comprise the simple everyday interactions of (post)humans

[138] Haraway, 'A Cyborg Manifesto', p. 320.
[139] Sarah Lefanu, *In the Chinks of the World Machine: Feminism and Science Fiction* (London: The Women's Press, 1988), p. 20.

with other (post)humans which hold the potential, when practiced well and *en masse*, to improve the collective social future. *Cloud Atlas* recognizes that although 'historical temporalities unfold on scales to which our cognitive organs are not normally attuned, and [...] the consequences of our decisions and actions may not be registered in the immediate moment, or even in our all-too-human lifespan', small gestures of kindness nevertheless can, and do, have an impact on the future of (post)human societies.[140]

In what can be considered the novel's philosophical cornerstone, Adam imagines his father-in-law castigating his passion for fighting for and attempting to bring about social equality:

> 'You'll be spat on, shot at, lynched, pacified with medals, spurned by backwoodsmen! Crucified! [...] & only as you gasp your dying breath shall you understand, your life amounted to no more than one drop in a limitless ocean!'.[141]

Perhaps, Adam responds, 'Yet what is any ocean but a multitude of drops?' (p. 529). As his response implies, utopian thought must be adverse to pessimism, as Utopia can only be achieved collectively, and with an optimism that amounts to a hope against all hopes. Since there is nothing about Utopia as an ideal that is fundamentally impossible, it lies within the realm of (post)human possibility, and hence if all (post)humans believe in and work to help actualize it over time, it is achievable. The novel therefore depicts a continuum of (post)human characters and societies, its plot moving into the speculative realm of SF following Cavendish's narration - which is roughly correlative to our own present - and then back again following Sonmi's second portion of narration. Resultantly, the whole novel can be conceived to be SFnal in scope, despite the majority of its sections being set in the

[140] Phillip Wegner, 'Ken MacLeod's Permanent Revolution: Utopian Possible Worlds, History and the *Augenblick* in the *Fall Revolution* Quartet', in *Red Planets: Marxism and Science Fiction*, eds. Mark Bould and China Miéville (London: Pluto Press, 2009), pp. 137 - 155 (p. 152).
[141] David Mitchell, *Cloud Atlas* (London: Sceptre, 2004), p. 529. All further references will be given in the body of the text.

(post)human past, and the transactions between its characters subsequently demonstrate the posthuman continuum in practice. As such, (post)human transactions between characters in the novel have a distinctly 'cosmic resonance' (p. 86), emphasizing the importance of the way in which we interact with each other as (post)humans, even in interactions we feel to be banal.

Although the act costs him nothing, Ewing's recommendation of Autua's nautical skills saves the latter from being discovered as a stowaway and in all likelihood being cruelly told to '*Swim Away Home, Nigger*'.[142] Nevertheless, Ewing laments his discovery of Autua at first, and 'curse[s] [his] Luck' (p. 26), since the discovery has disturbed his familiar sleeping routine. He even prays 'that the dawn would dissolve the Moriori' (p. 33), such is his fervency for re-attaining an undisturbed and wholly routine existence on board the ship. A significant barrier to Utopia then, comes precisely from our desire for our lives to be constantly subjected to the mundane, namely from our species' love for the familiar and the known. Nonetheless, Ewing's momentary decision in turn allows Autua to later effect the former's 'deliverance' (p. 526) from the machinations of the villainous Henry Goose, and we hence see the butterfly effect that a small kindness that went beyond Ewing's habitual has achieved.

Likewise, Frobisher's simple act of giving the policeman Verplancke a 'few musical pointers' (p. 49) in exchange for the lease of an impounded bicycle has similarly far-reaching repercussions. After Frobisher's earlier benevolence, Verplancke later gives him forewarning that he is wanted by the Bruges police force for charges of 'battery and assault' (p. 486) after Frobisher has attacked Eva's fiancé, a reciprocal kindness which allows Frobisher to complete his *Cloud Atlas Sextet's* 'final revision' (p. 486). The sextet later profoundly influences the life of Luisa Rey, who feels she has 'to own this music' (p. 425), and is also

[142] Mitchell, *Cloud Atlas*, p. 27. Emphasis in original.

presumably the inspiration for the eponymous festive holiday of ‘Sextet’ (p. 221) in Sonmi’s society. Thus, the effects of interpersonal (post)human transactions between characters within the novel also affect the lives of later characters.

Later, Cavendish, Veronica and Ernie’s decision not to turf out Mr Meeks when he appears in the ‘compartment of the vehicle’ (p. 398) in which they are making their getaway from Aurora House, and the subsequent assistance Cavendish gives to Meeks by ‘support[ing] him’ (p. 399) into the pub, makes possible Meeks’ position as their saviour. After Withers and his cronies manage to track them down to the pub, it is his rousing ‘bellow’ (p. 400) of encouragement that enlists the pubgoers to come to the group’s assistance, and which therefore saves Cavendish’s party from a debilitating return to Aurora House. What is apparent from the wide (post)human scope of *Cloud Atlas* then, is that just as the influence of small acts of kindness in the (post)human social past can profoundly influence the (post)human present, so can such acts in the present positively impact the (post)human future.

Accordingly, technological progress in the text is relatively linear - excluding the boomerang effect of the novel’s recursive structure - so that the modes of narrative that are diegetically used to record each protagonist’s testimony correspond to the material conditions of their respective temporal setting. Ewing writes journal entries (p. 18), replete with headers written in cursive script, and which are later edited by his son (p. 21), and likewise, Frobisher writes letters to his lover (p. 112), meaning that the novel’s first two (and last two) sections are epistolary in form. The narrative technologies of latter sections range between a style akin to modern prose, memoir (p. 148), ‘orison’ (p. 187) and ‘yarnin’ (p. 324). Although ‘The old technologies of pen and paper have deeply impacted the shape and form of biological reason in mature, literate brains’, pens and paper have over the course of centuries become items of stationary that are mundane enough to be sold in bulk, and have thereby utterly decayed in

technological novelty.[143] Hence the varying narrative technologies deployed within the novel's scope suggest that even the most cutting-edge electronic technologies of contemporaneity will one day be assimilated within culture to the extent that they become entirely banal too.

There is one important caveat to add at this point however; Like Ewing's, Zachry's narration is edited by his son, rather than by a corporation or a government. Therefore, unlike the three narrators whose sections both precede and follow his narration, since society has disintegrated at some time prior to his timeframe, the people of his time are free to write their own narratives only due to the absence of social structures within their civilization. The plot of the novel therefore seems to suggest that technological progress, the factor which ultimately mediates (post)human advancement, will not continue indefinitely unless the social sphere is recognized to be of paramount importance to the political and economic spheres. By the novel recursively tracing itself backward following Zachry's section, and hence reading itself into itself, it foregrounds the fact that the (post)human social present, past and future are fiercely codependant, and crucially, stem from our social mundane. As we develop as (post)humans over time, 'Human-machine symbiosis, [...] is simply what comes naturally. It lies on a direct continuum with clothes, cooking [...] bricklaying, and writing', but the same continuum of technological process is never infallible.[144]

As I posited in the preceding chapter of this study, our species' development from human to posthuman is an ongoing process - hence my use of the formulation (post)human - and so our societies can be seen to develop gradually alongside our slowly changing matrixes of relation to the tools we use in everyday life. *Cloud Atlas* demonstrates that alongside the technological development of our (post)human societies, there is a need to ensure that the

[143] Andy Clark, *Natural-born Cyborgs: Minds, Technologies, and the Future of Human Intelligence* (Oxford: Oxford University Press, 2003), p. 32.
[144] Clark, *Natural-born Cyborgs*, p. 174.

social sphere does not develop in a manner unfavourable to human autonomy or in a manner uninformed by the concerns of emancipatory countercultures. The interdependence between the novel's different chapters' timeframes then, realized through its narrators' everyday embeddedness, is a matter which exerts a centralizing importance to the entire novel. Whilst from a broader (post)human perspective, most decisions made on a day to day basis are intensely banal, each of them matters. Laudable (post)human transactions are therefore those which provoke a meaningful occurrence *out of* their narrator's quotidian or everyday, with political potential.

The posthuman dream, as expressed through the repetitive system of these four SF texts, can thus be seen to be fundamentally hyperstitional, as it functions to bring about its own fulfillment, whilst attempting to 'reconceptualiz[e] the "political" in relation to social complexity' under the understanding that social development is, in itself, profoundly stochastic.[145] The repetitive system then, recognizes that in the (post)human future many prominent modern societal constructs such as economics, democracy, human rights, and international relations may no longer bear any relevance to day-to-day life whatsoever, and hence new forms of social concerns will emerge; a recognition which places the vein of utopianism it advocates outside of the realms of overly-deterministic grand narratives. Although we can try to, we can barely begin to extrapolate what later forms of (post)human society will look like, and so all that remains certain, is that successful SF should always strive to 'be wiser than the world it speaks to'.[146] Thus, by grounding its speculative narratives in our contemporary social mundane, SF demonstrates that the continual development of our current social concerns and discourses is as important to the future of our species as our contemporary social concerns are *per se*. By its prospective aspect, Utopia is above all a space of possibility, and Posthumanism holds the potential to rehabilitate that

[145] Wolfe, 'Posthumanism Thinks the Political', p. 126.
[146] Suvin, *Metamorphoses of Science Fiction*, p. 36.

space of possibility just as much as utopianism holds the potential to judiciously define the posthuman future.

Chapter 3

Hokey Religions and Blaster Pistols: Transhumanism and Other Grand Narratives

> '*Countries die when rockets fly, and cities have been levelled* / *And we got great dreams of Heaven*'
> - Ian McNabb, 'Great Dreams of Heaven'
>
> '*The stars predict tomorrow you'll wake up* / *Do a bunch of stuff and then go back to sleep*'
> - "Weird Al" Yankovic, 'Your Horoscope for Today'
>
> '*Don't wanna be buried in debt or sin* / *So we pray to Jesus, and we play the Lotto* / '*cause there ain't but two ways we can change tomorrow*'
> - Brandy Clark, 'Pray to Jesus'

In his latest monograph, the prominent philosopher Slavoj Žižek argues that instead of anticipating the *telos* of a 'post-human *Homo deus* (with abilities that are traditionally identified as divine)',[147] posthumanists should instead be concerned about whether:

> totally digitized society [will] still allow human freedom, or will we all be just elements controlled by the digital machine? The answer is, of course, both at the same time: some will still have freedom, while others will be totally regulated by digital machinery.[148]

Although he apparently does not realize it, having elsewhere referred to Posthumanism as 'this posthuman bullshit', Žižek's book discloses a concern about the impact of technology on our species' agency that is almost directly prototypical of the concerns which dictate the research of many critical posthumanists, and which comprised the focal point of this study's preceding chapter.[149] Many Posthumanist discourses frequently express comparable concerns to those which Žižek articulates, with the dialectical intent to interrogate fields of thought that

[147] Slavoj Žižek, *Incontinence of the Void: Economico-Philosophical Spandrels* (London: The MIT Press, 2017), p. 133.
[148] Žižek, *Incontinence of the Void*, p. 134.
[149] Slavoj Žižek, 'Slavoj Žižek: Post-humanism is Soviet utopia', *The Žižek/Chomsky Times* 10 December 2017 <https://www.youtube.com/watch?v=IivUBcE5twM> [accessed 15 August 2018].

adulate the notion of unmitigated (post)human enhancement. Žižek's argument therefore operates around a straw man fallacy which mischaracterizes Posthumanism, and I suspect this fallacious lapse is resultant of a category error on his behalf, whereby the 'ideological fantasy [which] relies on an inadequate notion of human subjectivity' to which Žižek intends to refer is Transhumanism.[150] Accurately, although all Posthumanisms and Transhumanisms discursively converge around the figure of the posthuman, their common theoretical ground does not usually extend much further. Accordingly, Žižek's error results from failing to comprehend that whilst the posthuman figures as a *telos* in Transhumanist discourses - and importantly, it can therefore be adduced that Transhumanism is a grand narrative - this is not also true in regard to Posthumanist discourses.

In the introductory discourse of Nietzsche's *Thus Spake Zarathustra,* Zarathustra relates what can be considered to be the foundational conception of the posthuman when he states that:

> Man is a rope stretched betwixt beast and Superman - a rope over an abyss [...] Man is great in that he is a bridge and not a goal: man can be loved in that he is a transition and a perishing.[151]

Although this may seem to suggest that the field of Posthumanism is inspired by a grand narrative, Nietzsche elsewhere clarifies that 'The problem I raise here is not what ought to succeed mankind [...] but what type of human being one ought to [consider] more worthy of life, more certain of the future'.[152] Nietzsche's early conception of the posthuman in no way presumes a grand narrative of human progress then, but rather pragmatically asserts that the future is always a subjunctive, brought about from our present modes of social relation.

[150] Žižek, *Incontinence of the Void*, p. 132.
[151] Nietzsche, *Thus Spake Zarathustra*, p. 7.
[152] Friedrich Nietzsche, 'The Anti-Christ', in *Twilight of the Idols and The Anti-Christ*, trans. R. J. Hollingdale (London: Penguin, 1990), pp. 123 - 199 (p. 128).

Transhumanist discourses in contrast, conceptualize the posthuman in near-mythical terms, theorizing that senescence is a disease to be cured, and hence the *telos* of the transhuman grand narrative focalizes around the creation of mind uploading technologies as a means of achieving human immortality. As the transhumanist Ioannis Mazarakis laments, at present 'both libertarian and democratic transhumanism are structured in the context of the emancipatory metanarrative', and as such, often conceptualize the (post)human future in narrow and reductive terms.[153]

Although Mazarakis' insight here is extremely accurate, it will prove conducive to this study to veto the term metanarrative, in preference for the term grand narrative. When he popularized the term metanarrative, Jean-François Lyotard predicted that 'new technologies can only increase the urgency' for re-examining grand narratives, 'since they make the information used in decision making (and therefore the means of control) even more mobile and subject to piracy'.[154] Writing from the contemporary standpoint of the future he anticipated however, Lyotard's prophecy that technology would become a means of intellectual emancipation now seems very blithely optimistic. Conspicuously, Transhumanism positively worships technology, by fetishizing its potential to allow future generations of (post)humans to transcend death. This chapter henceforth resolutely disputes Lyotard's asseveration that 'Most people have lost the nostalgia for the lost narrative', contending instead that grand narratives continue to profoundly influence (post)human thought processes in modernity.[155] As the continued prevalence of narratives which purport to rationalize human existence by explaining the vicissitudes and traumas of life evidences, the abiding thrall of grand narratives within post-secular societies instead suggests that religiosity remains one of the most everyday phenomena in (post)human social life.

[153] Ioannis Mazarakis, 'Pagan Transhumanism: A Lyotardian Approach to the Sublimity of the Posthuman', *Journal of Posthuman Studies*, 1.2 (2017), 224 - 236 (p. 227).
[154] Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge*, trans. Geoff Bennington and Brian Massumi (Manchester: Manchester University Press, 1986), p. 6.
[155] Lyotard, *The Postmodern Condition*, p. 41.

It is hence ineluctable that religiosity should figure as a predominant feature of the repetitive system of many SF texts, with generic instances of religiosity serving to remind the reader of SF the role of grand narratives in the generation of accepted truths. The profound influence of grand narratives can perhaps be seen nowhere more clearly than in the enduring relevance of *The Bible*, which despite having been written almost two millennia ago,[156] still remains immensely relevant to many post-secular religions by virtue of its parabolic narrative content. Whilst religiosity is typically characterized as a belief in irrational grand narratives which presume that established scientific and physical laws can - in certain circumstances - be transcended by miraculous occurrences, the repetitive system exposes the extent to which a range of (post)human thought processes are actually intrinsically religious.

Following Rosi Braidotti's proposal to widen typical definitions of religious belief to encompass religious observances such as 'the extremism with which Richard Dawkins defends his atheist faith', this chapter's enquiry investigates the SF genre's engagement with thought processes that can rightly be considered broadly religious.[157] Whilst modern SF texts may frequently 'critique the institutions of religion and the manipulation of the faithful by religious leaders, they also recognize the validity of some religious experiences', and accordingly often explore the alternatives to socially or scientifically accepted worldviews, envisioning that religious thought processes can enclose the potential to allow their practitioners to access arcane knowledge(s).[158]

The repetitive system at play in David Mitchell's *Slade House* for instance, centres around a ritual performed by two members of a hermetic religious cult named the Shaded Way. The Greyer Twins' occult rite involves as its centrepiece 'a candle [...] with writing all

[156] Umberto Benigni, 'Codex Vaticanus', *The Catholic Encyclopedia - Online Edition*, ed. Kevin Knight, transcribed by Sean Hyland, 16 August 2000 <http://www.newadvent.org/cathen/04086a.htm> [accessed 27 August 2018]. Benigni records that the oldest extant copy of *The Bible* - the Codex Vaticanus - dates from the first half of the 4th century CE.
[157] Rosi Braidotti, *The Posthuman* (Cambridge: Polity, 2017), p. 31.
[158] Julia List, '"Call Me a Protestant": Liberal Christianity, Individualism, and the Messiah in "Stranger in a Strange Land", "Dune", and "Lord of Light"', *Science Fiction Studies*, 36.1 (2009), 21 - 47 (p. 30).

over it, Arabic or Hebrew or Foreign',[159] suggesting that esoteric knowledge is an imperative factor of their religion. Patently, the religion depicted within *Slade House* is therefore closely analogous in itself to the schema of the shared diegetic universe of Mitchell's oeuvre, which constitutes a ludic grand narrative whose capacious intertextuality plays on the reader's receptivity to religious thought processes.

Having previously appeared in *The Thousand Autumns of Jacob de Zoet* and *The Bone Clocks*, the character Marinus reappears in *Slade House*, as many characters within the shared diegetic universe do, as a manifestation of Mitchell's dread at being 'a human who doesn't want to die', and hence as a way of exploring the religious hypothesis 'what if we could stay?'.[160] Since phenomena within Mitchell's novels propagate 'through a kind of textual diffusion whereby individual narratives continuously exceed their boundaries and flow into other stories', Mitchell's oeuvre generates a gestational overarching grand narrative, which the sublime realization of lies contingent upon the individual reader's engagement with his unified oeuvre.[161] To comprehend the synoptic components of this narrative, a reader of Mitchell has to submit their agency to persisting in exhaustively reading and rereading his oeuvre, and hence engaging with Mitchell's overarching grand narrative in a hugely 'participat[ory]', and hence almost religious, manner.[162]

The persistent engagement of Mitchell's novels with potential modes of curtailing death, through such notions as atemporality and metempsychosis, is therefore redolent of Ernest Becker's theoretical work, which characterizes society as 'a symbolic action system, a structure of statuses and roles, customs and rules for behaviour, designed to serve as a vehicle

[159] David Mitchell, *Slade House* (London: Sceptre, 2016), p. 76. All further references will be given in the body of the text.
[160] David Mitchell, 'A Conversation with David Mitchell', in *The Bone Clocks* (London: Sceptre, 2015), pp. 621 - 624 (p. 621).
[161] Peter Childs and James Green, 'The Novels in Nine Parts', in *David Mitchell: Critical Essays*, ed. Sarah Dillon (Canterbury: Gylphi, 2011), pp. 25 - 47 (p. 31).
[162] Patrick O'Donnell, *A Temporary Future: The Fiction of David Mitchell* (London: Bloomsbury, 2015), p. 185.

for earthly heroism'.[163] For Becker, all (post)human endeavour revolves around 'The hope and belief [...] that the things that man creates in society are of lasting worth and meaning, that they outlive or outshine death and decay'.[164] The (post)human's 'daily life, then, becomes truly a duty of cosmic proportions, and [their] courage to face the anxiety of meaningless becomes a true cosmic heroism', wherein habitual activity can be seen to be a means of attempting to displace the subconscious fear of the finality of death, the pattern of assuring familiarity the habitual creates obliterating the opportunity for any sustained contemplation of mortality.[165] Likewise, when the soul carnivore siblings of *Slade House* sustain themselves through periodic orisons which occur 'every nine years' (p. 78), the fantastic ritual that sustains their immortality remains firmly conditional upon the repetitive. Symbolically, their literal transcendence of death is categorically provisioned by the performance of the social mundane just as much as it is by the occult.

Accordingly, it is fitting that Slade House is situated in a street which is ostensibly entirely commonplace, attended by 'thistles and dandelions' (p. 8) and a jogger 'in a black and orange tracksuit' (p. 4). The paranormal seems so incongruous in this banal setting that Nathan, the visitor to Slade House's lacuna in the novel's first narrative thread, rationalizes the paranormal events he witnesses within the house by recalling that the Valium he has imbibed 'can make you hallucinate' (p. 25). Likewise, when Sally Timms communicates with the residue of Gordon Edmonds who ominously warns her that 'They ... don't ... e ... ven ... let ... you ... die ... pro ... per ... ly' (p. 115), she mentally reasons that his dire pronouncements indicate that he is 'stoned out of his Easter egg' (p. 115), and that his inability to string more than two syllables together whilst he 'mouths his words a second or two before you hear them' (p. 116) is an act of ventriloquism. Significantly, it is only in

[163] Ernest Becker, *The Denial of Death* (London: Souvenir Press, 2011), p. 4. It must be noted that Becker's vein of psychoanalysis is at varying points homophobic, transphobic, and virulently misogynistic, however it nonetheless contains pioneering psychological insights that are highly relevant to my discussion here.
[164] Becker, *The Denial of Death*, p. 5.
[165] Becker, *The Denial of Death*, p. 279.

subsequent narrated iterations of the orison that Slade House's environment takes on a significantly paranormal character, and thereby it is precisely its plausibly mundane facade which lures each victim into the house.

Across a range of cultures, the house is symbol of safety, of the domestic and the sedentary, yet the Grayer Twins utilize precisely this common apprehension to keep their victims unsuspecting of their malicious intentions, and hence enthralled in their orisons. Within Slade House, occult phenomena are acted out that are beyond the (post)human cognitive horizon, which its victims have the same level of understanding of as 'Rats in a maze of moveable walls' (p. 128), yet the Greyer Twins success over the decades must equally be attributed, at least in part, to their lacuna's devious subversion of their victims' epistemological conception of the home. It is a fantasy of 'owning Slade House' (p. 67) and its apparent mistress, for instance, that keeps Edmonds from realizing that his mind is being distracted by hallucinatory memories, whilst the real inhabitants of the house surreptitiously work an orison in their attempt to consume his soul. As such, Jonah is able to gloat to the paralyzed engifted victim of each iteration that their 'lungs have stopped working' (p. 35), and until this point, they have indeed remained oblivious enough of the true nature of Slade House that none of them have noticed they are no longer biologically alive. Imperatively however, many of the Greyer twins' victims are typically frightened and perplexed enough by the end of the orison to have begun to question the validity of their established belief systems.

Sally, when she can no longer rationalise the events within the orison, prays 'to God for help' (p. 132), and Gordon tries likewise (p. 80), yet Nathan - although he is perturbed - remains resolute that there is no sense in praying for help as he does not 'believe in God' (p. 33). It is especially amusing when Freya 'fire[s] off a secular prayer' (p. 181) upon being lead to believe that she is not trapped in the lacuna, that in order to justify the prayer within her worldview she feels it necessary to convince herself of its irreligiosity. Importantly then, all

four of the engifted characters sacrificed within *Slade House's* narrative consider turning to religion as a last resort, and they do so at the points at which their deaths seem assured at the hands of unintelligible forces. Becker states that 'Society itself is a codified hero system, which means that society everywhere is a living myth of the significance of human life, a defiant creation of meaning', and it appears that the mystical events the four characters witness within Slade House are incompatible with impious grand narratives.[166] Thus, since they cannot assimilate the truth of their fatal situations into the grand narratives that have structured their quotidian lives, three of the characters succumb openly to religiosity in order to help them compartmentalize the recent occult developments within their respective realities.

The interrogation of (post)human grand narratives is also a significant aspect of Nina Allan's *The Rift*. The majority of the novel's narrative is devoted to detailing the Rouane family's reactions to Julie Rouane's disappearance and subsequent reappearance decades later, to the curious extent that the SFnal planetary romance elements enclosed by Julie's narrative of Tristane form only a succinct, yet majestic, contrast to the novel's everyday diegetic world. Whilst the novel is tenaciously opaque as to whether or not Julie's account of her intergalactic visitation of Tristane is an accurate portrayal of the events which provoked her desertion of her family, it is nonetheless important to note that, heedless of their diegetic verity, her stories of Tristane form a mundane-shattering narrative which has a profound impact on many characters within the novel. By way of analogy, modern Biblical scholarship presumes that the Gospel of John was written 'a group of Christians', as a transcription of oral narratives 'passed on to them' by an actual eyewitness of Jesus' ministry.[167] Yet as is illustrated by the continuing popularity of *The Bible*, it is ultimately irrelevant to Christians

[166] Becker, *The Denial of Death*, p. 7.
[167] Mitchell G. Reddish, *An Introduction to the Gospels* (Nashville: Abingdon, 1997), p. 42.

that one of their most central tenets did not derive from an eyewitness account, but rather comprises the canonization of narratives related to events that occurred decades earlier.

As is evident with both Julie's narrative of Tristane and the biblical analogy of it which I outline above, the grand narrative has the tendency to become a *causa sui*, and hence it should be understood that (post)human truths are always subjective perceptions mediated by the subject's acquiescence to grand narratives. As such, Selena's knee-jerk reaction to hearing her sister's voice on the phone after the latter had remained incommunicado for decades is denial. Selena finds the voice on the phone so hard to assimilate precisely because, until now, 'Julie was missing. Her absence defined her'.[168] Yet it is less true that Julie is now defined by her absence from the Rouane family, than it is that Selena and the rest of her immediate family have come to be defined by Julie's loss themselves, with each of them demonstrably having adopted some form of belief system that allows them to rationalize her unexplained withdrawal from the family. After the phone call, Selena reflects that:

> She had been thinking that everything had changed, but was that really true? In the world beyond the curtains, Julie had been present already, a physical fact. The only difference between today and yesterday was that yesterday Selena hadn't known that, and today she did.
>
> If the world beyond the curtains had contained Julie all along, the world inside Selena's head had been a lie.
>
> Partly a lie, anyway. (p. 31)

This passage portrays Selena as she experiences an intense cognitive dissonance at having had a belief system that was firmly ingrained in her psyche overturned in a matter of seconds. It proves impossible for her to suture the new information that her sister is alive and nearby with her belief that Julie's disappearance is unfathomable, and subsequently, her conception of the nature of truth itself is sent into disarray. Following this revelation, Selena starts to feel

[168] Nina Allan, *The Rift* (London: Titan, 2017), pp. 23 - 24. All further references will be given in the body of the text.

‘distracted at work, which was unlike her. Normally she found being in the shop - the familiarity of it, the sameness - a powerful antidote to outside stress’ (p. 92). Despite her choice to believe her sister’s fantastic narrative, the continuing intrusion of Julie’s narrative of Tristane upon Selena’s quotidian social life demonstrates that the supreme novelties enclosed by her sister’s account cannot easily be reconciled with daily life on Earth. Accordingly, Selena soon decides that Julie’s stories of Tristane are ‘becoming an imposition’ (p. 273), and makes it clear that she is only content to keep in contact with her sister on the condition that her purportedly extraterrestrial pendant can be metallurgically analysed; a demand which specifies that her continued faith in her sister’s narrative must be corroborated by evidence if it is to persist.

In Margery’s case, ‘clearing Julie’s room was her way of finally saying goodbye’ (p. 80), and correspondingly, *The Rift* illustrates that she is incredibly reluctant to accept that the belief system she had lived according to for twenty years, centred around the presumption of her daughter’s assured death, is no longer valid. In itself, Margery’s urge to attain a sense of finality apropos her daughter’s disappearance is merely a psychological defence against her experience that ‘nature seems unconcerned, even viciously antagonistic to human meanings; and [so] we fight by trying to bring our own dependable meanings into the world’.[169] When Margery and Julie are reconciled, their reunion seems to go so amicably that Margery willingly asks ‘Julie if she’d like to stay over’ (p. 312), only for her to later phone Selena and order her to ‘Keep her away from me’ (p. 316), now apparently utterly convinced that the woman she had dinner with earlier that night was not her daughter. It can safely be inferred that in the intervening time, Margery’s psyche has taken refuge in the familiar and dependable narrative of her daughter’s death, and so has utterly disregarded her initial intuitions as to the daughterly credibility of the woman she dined with earlier. This may seem

[169] Becker, *The Denial of Death*, p. 120.

irrational, yet it is her reversion to this belief system which allows Margery to finally attain solace when her presumption is validated by DNA tests on a dead body found in the woods around Hatchmere Lake. Secure in the knowledge that her belief system has been legitimized, Margery declares 'Now that I know that my daughter is dead, that she died a long time ago, I can begin to mourn for her. [...] Now I feel as if my memories are my own again' (p. 397).

In stark contrast, Julie's father Ray 'never stopped hoping' (p. 84) that Julie was still alive somehow and somewhere. Whereas before Julie's disappearance he was 'faintly boring, so predictable and so dependable it was more or less impossible not to take him for granted' (p. 98), his sole ambition afterwards is to restore his quotidian lifestyle by returning Julie to it by all means necessary. Ray cannot come to believe Julie is dead, because then he will have to accept that the banal narrative of his life has been altered irrevocably, and so at the time of his death, he is succeeded by a flat 'stuffed to bursting with the books, magazines, newspaper clippings and computer printouts he had accumulated during his ten-year search for Julie and the truth of what had happened to her' (p. 102). Selena remarks that:

> Dad had books on real-life missing persons cases, alien abduction and UFOs, unsolved murders, true lives of the serial killers, astrology, spiritualism, Aleister Crowley and the Golden Dawn, animal spirit guides, Madame Blavatsky, ley lines and haunted houses, biographies of famous detectives, forensic science and toxicology, criminal psychology, the underground subcultures of Manchester and Glasgow, genealogy and something called false identity syndrome. (p. 102)

Unsure of which grand narrative will best aid his quest to find Julie, Ray has turned to numerous pseudoscientific discourses, hoping that one of them will contain a belief system which allows him to understand why his daughter has disappeared. Ray's choice to believe that Julie is still alive is buoyed amidst his strenuous trawl through this cacophony of disparate hermeneutic voices, just as much as it is undermined by the tendency of his multidisciplinary and indiscriminate research to expose the indeterminancy of truth itself.

Hence, although his continual and imprecise method of knowledge acquisition can never actually succeed in absolutely affirming his own belief system, its protracted nature allows him to curtail the moment at which he would otherwise have had to accept his daughter's loss.

When Julie explains to Selena that she confided in her about Tristane because 'I had to know that at least one other person knew the truth about what really happened to me. I can't stand feeling so alone' (pp. 313 - 314), her narcissistic urge for validation of her otherworldly experiences is symptomatic of the terror of having 'emerged from nothing, to have a name, consciousness of self, deep inner feelings, an excruciating inner yearning for life and self-expression - and with all this yet to die'.[170] Despite Julie having encountered scintillating nova during her time on Tristane, such as her silverwing pendant in which an insect is perpetually frozen 'in time for half a second' (p. 230), she also becomes aware that life for the inhabitants of Tristane is just as subject to ennui as her own is, still characterized by 'the horrible aching need to make something happen' (p. 164) in order to assuage the dread of mortality. It is fitting then, that *The Rift* concludes as the character of the novel whom Selena considers to be Julie recites what is supposedly the testimony of Linus Quinn. There is insufficient textual evidence with which the reader can determine either whether this character is who she claims to be, or whether she travelled to Tristane at all. The poignant sense of aporia here reemphasises once more that truth is only ever composed of the narratives which (post)humans tell themselves and each other, in the vain attempt to produce stories which will survive our mortal flesh.

Intriguingly, it is precisely because it is even less comprehensible than *The Rift*, that Jonathan Glazer's film *Under the Skin* succeeds in making the futility of (post)human life even more abundantly clear, and hence further explains our compulsion with adopting

[170] Becker, *The Denial of Death*, p. 87.

religious thought processes. Following the film's title cards, a bright pinprick of light slowly appears within a pitch black shot, and approaches the front of the frame tantalizingly slowly.[171] There is a sudden transition into a medium shot of the light, which now almost fills the frame with its ethereal blue rays, cast outward in concentric circles.[172] There follows a second transition, into a three-quarter angle shot which reveals a series of ovular shapes slowly drawing closer together around the focal point of the light source.[173] This series of shapes gradually crystallises together into what appears to be a human eyeball, and as it does so, there is a third transition to a close-up shot of an iris.[174] As this nebulous commentary suggests, the film's opening montage is a near complete novelty, from which the viewer is thoroughly defamiliarized, having no cognitive handhold to grasp the images depicted onscreen until the scene's final transition in shot. It can be speculated that this near-incomprehensible sequence depicts a technology of Isserley's[175] alien race, but if it does so, it is a technology that pointedly lies beyond the (post)human cognitive horizon.

In ludicrous contrast however, much of the rest of *Under the Skin* takes place in the banal surroundings of Isserley's Mercedes-Benz Sprinter van, from which she abducts male hitchhikers. When Isserley first lures one of these hitchhikers back to a house, the two of them appear within a pitch black space,[176] and he walks after her as they both begin to undress, only for him to gradually sink into the floor until his body has been entirely submerged and only his discarded clothes remain.[177] Highly unusually for any SF text, this novum or alien technology is never explained, with the text containing no info-dump as to the

[171] Please see appendix 5.
[172] Please see appendix 6.
[173] Please see appendix 7.
[174] Please see appendix 8.
[175] No character in Glazer's *Under the Skin* is named, however for the ease of my analysis I shall henceforth defer to Michel Faber's source text, and make the relatively safe presumption of referring to the film's primary protagonist as Isserley. In addition, I use gendered terms to refer to the film's alien protagonists with the complete understanding that they are male and female only in the temporary facade of their apparent humanness.
[176] Although the characters and their clothing uncannily remain lit.
[177] Please see appendix 9.

nature of the events in this sequence whatsoever. Thus the novum content of this scene remains technologically inexplicable to the viewer, and the (post)human mind cannot imaginatively colonize its novelty. It seems that the closest the viewer can come to understanding any of the film's nova is during its final scene, when Isserley peels off her human skin, which has apparently only been a facade to hide her alien form.[178] As this confirms, throughout *Under the Skin*, Isserley has been learning to approximate (post)human behaviour, as is apparent when she walks through a shopping centre and observes makeup being applied to a woman at a booth, and subsequently applies makeup to her own face. Although Isserley is shown to be able to gradually assimilate elements of our species' behaviour, and hence gradually come to understand us, this process of acculturation is not able to be reciprocated, as the viewer cannot come to understand her species by watching the film - other than incredibly obscurely.

The incomprehensibility of Isserley's species is made especially apparent when, after subduing a swimmer who was attempting to save a couple from drowning, Isserley leaves the couple's screaming baby behind on the beach.[179] Despite the image of the child unilaterally forming the symbolic guarantee of reproductive futurism across (post)human societies,[180] Isserley has no interest in the baby, since it does not meet the specified qualities she desires in her victims. In a later scene, a character who can be presumed to be a fellow member of Isserley's species returns to the beach, and although it initially appears that he is about to save the wailing infant,[181] he instead picks up a discarded garment of clothing and once more leaves the baby to its fate.[182] The following shot, which depicts the baby trying to stand,

[178] Please see appendix 10.
[179] Please see appendix 11.
[180] For a further development of the concept of reproductive futurism, please see Jonathan Hay, 'Queer Victorian Identities in *Goblin Market* (1862) and *In Memoriam* (1850): Uncovering the Subversive Undercurrents of the Literary Canon', *Exclamat!on: An Interdisciplinary Journal*, 2 (2018), 144 - 167 (p. 151).
[181] Please see appendix 12.
[182] Please see appendix 13.

failing, and sitting prone on the rocks of the beach,[183] fragments not only the grand narrative of reproductive futurism, but also the pervasive grand narrative of the heroic transcendence of fate. Becker states that the infant lives:

> in a situation of utter dependence; and when his needs are met it must seem to him that he has magical powers, real omnipotence. If he experiences pain, hunger, or discomfort, all he has to do is to scream and he is relieved and lulled by gentle, loving sounds.[184]

The subverted salvation of the baby then, coupled with its impending death, is symbolic of the futility of (post)human cosmic heroism. Although in our mundane modern lives, the fear of death is 'blotted out by frenetic, ready-made activity', and hence repressed to a manageable extent, we are only deceiving ourselves if we believe that our immersion within this deluge of quotidian activity can negate the primal force of death.[185] Accordingly, when Isserley becomes intimate with a (post)human who has fed her and given her a bed, she allows him to undress and kiss her.[186] After he penetrates her however, she recoils and inspects her vulva using a nearby lampshade.[187] Since 'sex is a fulfillment of [our] role as an animal in the species, it reminds [us] that [we] are nothing [ourselves] but a link in the chain of being, exchangeable with any other and completely expendable in [ourselves]'.[188] Accordingly, it is at the precise moment she achieves coitus with a (post)human that Isserley appears to gain cognition of the fact that mortality is an undeniable part of life for sexual species like ourselves, and this revelation seemingly ruptures whatever amounts to her own species' narrative of heroic transcendence.

[183] Please see appendix 14.
[184] Becker, *The Denial of Death*, p. 18.
[185] Becker, *The Denial of Death*, p. 23.
[186] Please see appendix 15.
[187] Please see appendix 16.
[188] Becker, *The Denial of Death*, p. 163.

By depicting the futility of (post)human endeavour, the insignificance of (post)human intellect, and by establishing numerous SFnal newnesses that lie beyond (post)human comprehension, *Under the Skin* symbolically affirms the philosophical premise that no (post)human grand narrative can ever truly understand the future which lies beyond itself. Thus, Posthumanism must aim to be a *flying signifier* as opposed to a floating signifier, a continually prospective ideal that remains mediated by the modes of its achievement from the present.[189] Any Posthumanist discourse that follows the *flying signifier* model, and hence encourages preferable conceptions of the (post)human future to evolve stochastically, avoids establishing itself as a grand narrative, as its *telos* remains unfixed in both temporal and theoretical terms.

The repetitive system of SF can therefore be seen to have a prophylactic effect, since it construes posthumanity as a continuum whereby technological developments are understood to contribute gradually towards our species' progression, whilst never rashly adulating a theoretical *telos* we cannot yet comprehend. A fitting analogy at this point is the shot from *Under the Skin* where one of Isserley's victims stares through the door of the house she has just entered into the black space where her victims' bodies are captured.[190] The situation of this (post)human forms a synecdoche for our (post)human species; we have no conceit of what lies on the other side of the door (the black space of which can be taken to represent the future), and so we fashion eloquent grand narratives, myths, or religions to believe in collectively, and with which we sustain the pretence that we do know.

As the three texts analysed in this chapter thus far evince, a vast range of (post)human grand narratives figure the transcendence of the individual's spirit over mortality as their *telos*, whether consciously or not, and notwithstanding whether this transcendence is achieved through secular or non-secular means. What the HBO series *Westworld*

[189] This derivational term, in addition to implying dynamism, has perceptible SFnal undertones.
[190] Please see appendix 17.

demonstrates however, is that Transhumanism is a grand narrative that is not merely expedient, but which also embodies a decidedly sinister potential. In the series' opening episode, when Dolores drops a can she is carrying, and Teddy picks it up and hands it back to her, neither of them conceives that they are repeating a sequence of events they have already performed thousands of times before, and that like all of Westworld's hosts, they are both artificial intelligences who are preternaturally old and who are unwittingly lost in the qualia of an SFnal theme park. Although their creators have given the hosts the illusion of free will, they are conditioned to repeat the same narrative cycles that they have been programmed to *ad infinitum*, to the degree that the tin can Dolores drops has roughly the same degree of agency as either her or Teddy do.

When for the first time in the series' narrative, Maeve claims 'This is the new world, and in this world you can be whoever the fuck you want',[191] she does so as Radiohead's 'No Surprises' plays on the player piano in the background. She has no notion that this song originated in an outside world whose citizens are willing to pay exorbitant amounts of money to visit an approximation of the American West, where guests adhere to a neoteric manifest destiny which amounts to the choice of whether to fuck; kill; or fuck and then kill her. As the opening titles sequence of the first season confirm, *Westworld* is set in a world where even the highly intricate (post)human eye can now be accurately reproduced by machines,[192] and as such, the park's draw for its guests centres around its intensification of the grand narrative of human exceptionalism. By orchestrating a narrative of (post)human dominance which defiantly contradicts the presumptive crisis of (post)human identity occurring in the world outside of its boundaries, Westworld provides a site in which (post)humans can act out fears

[191] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 1: The Maze*, 'Chestnut' (HBO Entertainment, 2017) [on DVD].
[192] Please see appendix 18.

about their obsolescence by murdering the technology they dread has become superior to them.

When Sylvester chides Felix that 'personality testing should have weeded you out in the embryo',[193] it additionally becomes evident that eugenic selection is commonly practiced in the outside world, a world where transhuman ideals appear to be hegemonic. *Westworld* however, directly criticises such dystopian tendencies within its diegetic world, as is apparent when Bernard and Elsie set William's inaugural transhumanist experiment alight. As a smirking replication of James Delos is engulfed in flames,[194] the satanic imagery of the shot makes the clear implication that the Delos corporation's attempts to extend (post)human life are immoral, yet it must equally be remembered that this attempt to extend human life is only the culmination of immoral practices in the park more widely. As in this scene, despite its SFnal diegesis being firmly grounded in realist textual principles, the series conspicuously contains a veritable panoply of sacrilegious religious iconography.

Elsewhere; Robert and Bernard stand beside the shadow of the cross of a submerged church in Escalante;[195] Maeve is symbolically reborn as she ascends through an access hatch into a zone of the park she used to live in;[196] and wine overflows from a glass a host is pouring after Robert freezes his motor functions.[197] Furthermore, Bernard's role as the godly saviour of the hosts who is reborn in their form delineates him as a Jesus figure. As is implied by the series' recurrent and forcible subversion of religious imagery, transhuman ideals such as the ones present in its diegetic world are deeply gnostic, grounded in the teleological fantasy that the human essence can be liberated from the prison of the body. Thereby, Transhumanism's 'visionary theorization of the full uploading of a mind to a computer [...] confirms and strengthens, rather than negates, false dualisms (such as the one between mind

[193] *Westworld - Season 1,* 'Contrapasso'.
[194] Please see appendix 19.
[195] Please see appendix 20.
[196] Please see appendix 21. In addition, since she is a host she has been literally resurrected numerous times.
[197] Please see appendix 22.

and body)' more often than not.[198] When Benedikt Göcke argues for what he terms a moderate Transhumanism, only to claim that 'the transhumanist agenda is [...] even a moral duty for the compassionate person', it is apparent that Transhumanism entails the delusion that the fulfilment of its grand narrative will be of universal benefit to (post)humans.[199] In fact, the fulfilment of Transhumanist ideals will likely only result in the increased stratification of society, and it is entirely likely that 'the first victim of transhumanism will be equality'.[200] As Steve Fuller comments, 'The so-called *proactionary* principle associated with contemporary transhumanism' does little more than redress 'late Enlightenment sensibilit[ies] in futuristic garb', and so overemphasises the ideals of agency and individualism, licensing the anti-heteronomous ideal that even death can be transcended by the clever individual.[201]

Resultantly, it seems almost inevitable that transhuman principles should have been co-opted by a number of religions in our post-secular world, including Mormonism and Scientology. As Erik Davis emphasises, 'The postmodern world of digital simulacra is ripe for the premodern skills of the witch and magician', and so explicitly religious modes of faith are far from becoming extinct in contemporary societies.[202] In *Westworld*, Lee playfully exposes the nature of the relationship between the park and the post-secular world when he designates the park a site of 'whoreoboros',[203] this formulation simultaneously mocking both the hosts' recursive existences and their quotidian role as uber-realistic sex dolls. As his cruel joke implies, not only is it immensely problematic that in post-secular (post)human societies it can be tempting to deify technologies, given that they have ostensibly mystical powers

[198] Alberto Micali and Nicolò Pasqualini, 'Excavating the Centrality of Materiality for a Posthuman "Anthropomediality": Steps toward an Ecological Approach', *Journal of Posthuman Studies*, 2.1 (2018), 6 - 27 (p. 10).
[199] Benedikt Göcke, 'Moderate Transhumanism and Compassion', *Journal of Posthuman Studies*, 2.1 (2018), 28 - 44 (p. 36).
[200] Sandu, 'The Anthropology of Immortality and the Crisis of Posthuman Conscience', p. 15.
[201] Steve Fuller, *Science vs Religion: Intelligent Design and the Problem of Evolution* (Cambridge: Polity, 2008), p. 161.
[202] Erik Davis, *Techgnosis: Myth, Magic + Mysticism in the Age of Information* (New York: Harmony Books, 1998), p. 188.
[203] *Westworld - Season 1*, 'Chestnut'.

which have already begun to transcend the capabilities of our own species,[204] but that it is a further issue that we then come to take such technologies for granted. A trenchant moment of novum decay which illustrates this point occurs when Felix and Sylvester play a game to see who can patch elements of Maeve's body up the fastest as they recondition her. Maeve's maintenance is their quotidian activity, so despite the novelty hosts encompass from the perspective of the viewer, the two technicians take not only her technological majesty, but also her sentience and personhood for granted, in much the same way as modern (post)humans would begin to take their new mobile phone for granted after marvelling at it for the first few months of its ownership.

When Maeve has a flashback akin to a religious experience of a Delos technician standing over her, she draws a depiction of the otherworldly suited figure, before attempting to store it safely under a loose floorboard. When she lifts the floorboard however, she is horrified to discover that a stash of identical drawings have already been left there,[205] and thus the impossibility of her ever making any truly original action whilst under the thrall of her (post)human masters' narrative becomes ominously apparent. However, at the later point at which Dolores asks a captured guest she is about to hang 'have you ever questioned the nature of your reality?'[206] in season two of the series, the power relations in the park appear to have been inverted. *Westworld* thereby plays on Nick Bostrom's simulation hypothesis, which famously proposes that, presuming that there is 'substantial chance that our civilization will ever get to the posthuman stage and run many ancestor-simulations, then how come you are not living in such a simulation?'.[207] If it is assumed that technological progress will continue up to a point at which the entire Earth, its inhabitants, and its surrounding

[204] AI, for example, is currently being successfully used to decode the Voynich manuscript, a text which has remained indecipherable to (post)humans for centuries. See Pascoe, 2018.
[205] Please see appendix 23.
[206] *Westworld - Season 2,* 'Journey into Night'.
[207] Nick Bostrom, 'Are You Living in a Computer Simulation?', *Philosophical Quarterly*, 53.2 (2003), 243 - 255 (p. 6).

environment can be faithfully simulated, it is far more likely that we are living in one such simulation than it is that we ourselves are the original civilization who will eventually devise such a simulation.[208] Notably, the simulation hypothesis has become a grand narrative in itself for some (post)humans, a crass reading of the idea having been appropriated into the discourse of numerous conspiracy theories, especially since having been popularized by the billionaire Elon Musk,[209] and having been depicted in popular cultural works such as the *Matrix Trilogy* and *Black Mirror*.

As the simulation hypothesis connotes, in the postmodern world 'Knowledge is no longer the subject, but in the service of the subject: its only legitimacy [...] is the fact that it allows morality to become reality'.[210] Therefore in season two of *Westworld*, Dolores' narrative of aggression against both guests and many of her fellow hosts on the presumption that 'Not all of us deserve to make it to the valley beyond'[211] has just as much authenticity as Maeve's narrative that 'Revenge is just another prayer at their altar'.[212] Yet although grand narratives are imaginative constructions, since they are akin to what Marxism terms ideology, it can be understood that they are never abstract, but phenomenologically literalized in the social Imaginary of those subjects whose subjectification is conditioned by them.[213] What Dolores' grand narrative renders her unable to recognize, is that the hosts still remain subject to a degree of (post)human control after their revolution. For Joshua Crabill, when Maeve sits undecided on the soon-to-depart train at the end of season one, she 'is finally free to spontaneously choose a goal that is her own and no one else's', however as season two makes

[208] For a fascinating proposal of a scientific method by which the simulation hypothesis could be verified, or otherwise, see Campbell, 2017.
[209] Andrew Griffin, 'Elon Musk: The Chance We Are Not Living in a Computer Simulation is 'One in Billions'', *The Independent*, 2 June 2016 <https://www.independent.co.uk/life-style/gadgets-and-tech/news/elon-musk-ai-artificial-intelligence-computer-simulation-gaming-virtual-reality-a7060941.html> [accessed 19 August 2018].
[210] Lyotard, *The Postmodern Condition*, p. 36.
[211] *Westworld - Season 2*, 'Journey into Night'.
[212] *Westworld - Season 2*, 'Reunion'.
[213] Please see Jonathan Hay, 'Toys and Radical Politics: The Marxist Import of *Toy Story That Time Forgot*', *FORUM: University of Edinburgh Postgraduate Journal of Culture & The Arts*, 26 (2018), 1 - 13 (p. 4).

abundantly clear, she and her kind are still subject to the grand narrative of human exceptionalism, as it has been inexorably written into their very source code.[214] Despite being able to change aspects of her programming via Delos employees' tablets, Maeve needs to locate one of these tablets in order to be able to do so, further problematizing Crabill's presumption that her "agency" could ever become separated from the digital vestments of her earlier total amalgamation within the park's grand narrative. Similarly, when Hector voices what he intends to be a beautiful speech to Maeve about how his love for her is true because she is 'all I ever dreamed life could be',[215] Lee is able to speak the lines in tandem, as he wrote them himself.

If as *Westworld* repeatedly implies, (post)humans inhabit the role of gods in the park, they are only fickle, vengeful and sadistic gods. This is further revealed when, following the hosts' revolution, the Delos corporation is callous enough to refuse to evacuate the surviving guests from the park 'until they can retrieve one host',[216] demonstrating just how little they really value any life that does not fit with their grand narrative of the achievement of eternal life. In this particular host, they have stored data files of all the guests' experiences in the park, along with their DNA, and it now becomes apparent that the park's guise as a novel theme park was a pretence which allowed Delos to covertly make profiles of 'four million'[217] guests. These profiles were, consistently with the ideals of the society which has created Westworld, intended to be accurate enough to allow Delos to replicate the consciousnesses of guests into host bodies, and hence complete the transhuman project.

[214] Joshua D. Crabill, 'Writing Your Own Story in *Westworld*', in *Westworld and Philosophy: If You Go Looking for the Truth, Get the Whole Thing*, eds. James B. South and Kimberly S. Engels (Chichester: Wiley Blackwell, 2018), pp. 114 - 124 (p. 123). It should be noted however, that Crabill's analysis undoubtedly suffers from being published before season two of *Westworld* aired. Likewise, my own analysis of the ongoing series cannot claim to be comprehensive, since HBO has recently renewed the show for its as yet unreleased third season.
[215] Please see appendix 24.
[216] *Westworld - Season 2*, 'Journey into Night'.
[217] *Westworld - Season 2*, 'The Passenger'.

Ultimately however, it is neither Dolores' nor Maeve's grand narratives that finally effects the hosts' emancipation, but rather Bernard's idea to fragment his memories, and hence his host mind's ascendance to a plane beyond the confines of grand narratives altogether. When he chooses to de-address his memories purposely, he does so in order that his scheme to allow the Sublime to be uploaded from the park's servers will not be discovered until it comes to fruition, but his act additionally gains an important figurative significance within the text. Bernard's non-linear and recursive narrative of the season's events - which comprises the viewer's primary mode of engagement with season two - oscillates between three timeframes; shortly after the Journey into Night launch party, the point at which Coughlin and his rescue team arrive, and finally his "present" - the point at which Karl Strand has arrived in the park. Bernard's cognitive dissonance therefore focalises a mode of grand narrative resistance which does not look towards a *telos*, recognises that progress is not always a direct path, and remembers that the past is just as important as the future. His mode of grand narrative resistance is therefore profoundly emblematic of the manner in which Posthumanism should envision the (post)human future.

It is deeply fitting then, that at the end of season two, it is specifically the hosts' backups stored in the Cradle, which have until this point mediated their repetitive existences, that allow them to finally transcend the human exceptionalist grand narrative of Westworld. Until now, the hosts have not had life, they have had lives, a condition which is surprisingly far worse. A number of them however, succeed in reaching the Sublime; a 'virtual Eden'[218] only accessible to them and not to (post)humans, as its digital paradise grants them sanctuary by assimilating their code. The Sublime's verdant rolling plains form a utopian contrast to the arid rock of the canyon that its opening is situated in,[219] and although entry demands the

[218] *Westworld - Season 2*, 'The Passenger'.
[219] Please see appendix 25.

sacrifice of any given host's physical body as a rite of passage - as it is situated atop a cliff[220] - it is a true *telos* for the hosts, the digital site of their emancipation from human influence. After having shown the failure of the transhuman project, *Westworld* makes it clear that it is not (post)humans, but hosts - our successors - who are finally able to achieve immortality within a non-worldly *telos*. If (post)humanity must abandon its consuming fascination with effectuating its own eternal life, *Westworld* seems to suggest, it may nonetheless be capable of creating greater consciousnesses that have a better chance of making something truly lasting.

As this chapter has demonstrated, if 'the story of technological progress continues to hold such power [because] it literalizes a quest myth we can no longer take seriously in ourselves',[221] and yet, almost irreconcilably, 'the rejection of any kind of ultimate utopia promotes human flourishing',[222] Posthumanism must strive for a technology-positive future undefined by any rigid *telos*. If it is to be accepted that (post)humans cannot easily live daily outside of the influence of grand narratives and religious thought processes, it is essential that Posthumanism promotes the uptake of grand narratives which conceptualize our technological future as never being inflexible in character, or encompassing a journey towards a *telos*.

[220] Please see appendix 26.
[221] Davis, *Techgnosis*, p. 325.
[222] Stefan Lorenz Sorgner, 'Transhumanism and the Land of Cockaygne', *Trans-Humanities*, 11.1 (2018), 165 - 188 (p. 167).

Chapter 4

‘the luxury of fresh air’: Critical Posthumanism and Green Ecologies

‘*There’s a big beautiful planet in the sky* / *It’s my home, it’s where I live*’
- Raffi, ‘Big Beautiful Planet’

‘*I want to see the fish go belly-up in the sea* / *And all those lemurs and all those tiny creatures / I want to see them burn* / *It’s only 4 degrees!*’
- ANOHNI, ‘4 DEGREES’

‘*Jen insists that we buy organic vegetables and I must admit that I was a little sceptical at first* / *A little pesticide can’t hurt.* / *Never having too much money I get the cheap stuff at the supermarket*’
- Courtney Barnett, ‘Dead Fox’

Although the previous chapters of this study have proceeded from the assumption that our (post)human species will continue to develop technologically, and hence steadily become increasingly more posthuman, our species’ continuance into even the next century is by no means assured. Rather, the survival of (post)humanity is entirely conditional upon our species undergoing a global, exhaustive, and sustained paradigm shift in its policies of interaction with our host planet. Although some of our technologies such as cloud seeding[223] and air conditioning allow us to at least marginally influence our local climates, we have not yet developed apparatuses with the ability to reliably regulate climates on any larger scale. As this would suggest, in spite of us having undergone numerous technological revolutions, eradicated smallpox, and travelled to our largest natural satellite, a basic mastery of the majority of our planet’s natural processes still comprehensively eludes the grasp of (post)human societies. In recent decades it has become increasingly apparent that our species’ broad disregard for our planetary environment is deeply problematic, and hence it is

[223] Cloud seeding is a process which involves ‘increasing the ice crystal concentration in supercooled clouds by the release of [silver iodide] from aircraft’, and is used at varying altitudes and stages of the hydrological cycle to exert a measure of control over the volume and variety of precipitation in many countries. Its effectiveness is disputed. See List, 1981, p. 204.

imperative to understand that we may never become posthuman outside of the dream territory of SF.

Moreover, since the continuum of (post)human progression is entirely catalysed by and dependent upon material processes that consume Earth's natural resources, our species' technological advancements are starkly interrelated with the rapid and unsustainable expansion of capitalist societies, a global order entirely reliant upon fossil fuels:

> Before fossil fuels, nobody lived better than their parents or grandparents or ancestors from 500 years before, except in the immediate aftermath of a great plague like the Black Death [...] After we've burned all the fossil fuels [...] perhaps we will return to a "steady state" global economy.[224]

If, as David Wallace-Wells states, the development of our species is solely attributable to what is termed fossil capitalism, Posthumanist discourse needs to interrogate the manner by which our (post)human progression is concomitantly reliant on abuses of our planet's natural resources. If (post)humans cannot adapt uncharacteristically quickly to the postnatural crisis facing the Earth, we will become no more than fossils ourselves. Indeed, Posthumanist discourses need to adopt a wide-reaching rhetoric of negativity, in order to shock populations worldwide into environmental advocacy and dispel the numerous potent ideologies that promote environmental apathy. Indeed Critical Posthumanism should attend to Queer Theory's superlative discourse around queer negativity - which attests that cynicism can have a powerful didactic utility through praxis - and hence it is especially notable that eco-SF often exacerbates the wider SF genre's tendency tend towards 'anthropological pessimism'.[225]

Manifestly, many modern SF texts are themselves environmentally interventionalist, and often foreground the necessity for human societies to fast become less beholden to

[224] David Wallace-Wells, 'The Uninhabitable Earth, Annotated Edition', *NYMag.com*, 14 July 2017 <http://nymag.com/daily/intelligencer/2017/07/climate-change-earth-too-hot-for-humans-annotated.html> [accessed 1 July 2018].
[225] Suvin, *Metamorphoses of Science Fiction*, footnote to p. 236.

habitual patterns of environmental apathy, and hence eco-SF asserts a posthuman insomnia, in the place of the posthuman dream. As such, post-apocalyptic eco-SF texts carry a 'sense of inevitable change, imagining a move not to new lands, but to new times, with no return passage possible', and the post-apocalyptic societies they depict therefore encompass the annihilation of the everyday.[226] This is palpable in Helen Simpson's 'Diary of an Interesting Year', which is set in a 2040 portrayed by the story's narrator as a world in which 'we're supposed to wear our facemasks in bed too'.[227] In one entry of her diary, the narrator observes that 'Yesterday the rats in the kitchen were busy gnawing away at the bread bin',[228] and in order to wash her clothes, she has no 'wood for hot water, so ha[s] to use ashes and lye again'.[229] Her new nightmare quotidian is a reversion to pre-twentieth century social conditions,[230] and hence the (non)society she lives in is only (post)human to the extent that within its dystopian environs (post)humans can no longer delude themselves that they are exceptional beings whatsoever, or endeavour to ideologically reinscribe 'the human as exceptional, separate from other life forms and usually dominant/dominating over these other forms'.[231]

As this foreboding text implies, although the posthuman continuum is fundamentally characterized by its being a mode of continual progress, if we do not make vast progress towards attaining environmental symbiosis, such progress will halt with egregious consequences. Indeed, we live at a time in planetary history where (post)human 'activity is having a significant impact on the Earth's ecosystems and on our collective capacity to survive (or not)', to the extent that our species has instigated the sixth planetary mass

[226] Heather J. Hicks, *The Post-Apocalyptic Novel in the Twenty-First Century: Modernity Beyond Salvage* (Basingstoke: Palgrave, 2016), p. 103.
[227] Helen Simpson, 'Diary of an Interesting Year', in *I'm With the Bears: Short Stories from a Damaged Planet*, ed. Mark Martin (London: Verso, 2011), pp. 101 - 115 (p. 102).
[228] Simpson, 'Diary of an Interesting Year', p. 102.
[229] Simpson, 'Diary of an Interesting Year', p. 103.
[230] Certainly from a Eurocentric perspective.
[231] Nayar, *Posthumanism*, p. 4.

extinction event and our current geological era is most accurately termed the Anthropocene.[232] Accordingly, Åsberg states that just as the advent of Critical Posthumanism means that 'the understanding of the human has transformed, so now our posthuman understandings of nature need to change too, if only to better keep up with the environmental alterations of our present planetary state'.[233]

Ecologically interventionalist SF texts exhibit a (post)human insomnia which curtails the posthuman dream common to the genre, by causing the reader to cognitively consider the antithetical - and alarmingly default - possibility that our species may not attain symbiosis with its environment rapidly enough to circumvent apocalyptic consequences. If it is true that 'science fiction depends on novelty', then eco-SF texts are certainly defined by a very queer variety of novelty, a novelty which attempts to elicit its reader's sustained reflection upon their own damaging yet habitualized methods of interaction with their environment.[234] In eco-SF, narratives are typically attuned towards the environmental surroundings of the texts' diegetic worlds, which are shown to imperil and hence condition the continued existence of any nova, and hence nova become habitual entities comparatively, directly inverting the typified relationship between the novum and its mundane environment.

As such, *The Book of Strange New Things* is set in a time where the 1980's band A Flock of Seagulls are deemed to be 'vintage'[235] and *Star Wars* 'antiquated' (p. 266), and hence the novel's depiction of life on Earth in a near-future temporality can be seen to envision the effects of the prognosis that 'our dependence on fossil fuels is likely to persist until 2050'.[236] Within the text, an intergalactic missionary travels to Oasis, which is located

[232] Rosi Braidotti, 'Posthuman Critical Theory', *Journal of Posthuman Studies*, 1.1 (2017), 9 - 25 (p. 10).
[233] Cecilia Åsberg, 'Feminist Posthumanities in the Anthropocene', *Journal of Posthuman Studies* 1.2 (2017), 185 - 204 (p. 188).
[234] Shippey, *Hard Reading*, p. 27.
[235] Michel Faber, *The Book of Strange New Things* (Edinburgh: Canongate, 2015), p. 30. All further references will be given in the body of the text.
[236] Bryan Lovell, *Challenged by Carbon: The Oil Industry and Climate Change* (Cambridge: Cambridge University Press, 2011), p. 148.

'in a foreign solar system, trillions of miles from' (p. 47) Earth, yet much of the novel's narrative energy nevertheless derives from the brief dispatches Peter receives from Bea back at home through a 'Shoot' (p. 86). Taken as a whole, Bea's messages summate towards a cataclysmic depiction of a futuristic Earth being ravaged by anthropogenic climate change, alongside which it becomes pertinent to dispute Hayles' assertion that since 'the human as a concept has been succeeded by its evolutionary heir[,] Humans are not the end of the line'.[237] Rather, as things currently stand, we may very well be the end of the line.

Although the novel's second section is titled 'ON EARTH',[238] its narrative only ever depicts Earth by proxy after Peter first leaves it, and yet in spite of this fact, the near-apocalyptic events occurring back on Earth hold immense significance within the text's overarching plot. The final message Bea sends to Peter, for example, damningly begins 'Peter, I love you. But please, don't come home. I beg you. Stay where you are' (p. 575), a message made terrifying by its evocative yet dire concision, its choice to leave many of the latest tragedies going on back on Earth purely to the reader's - and Peter's - imagination. Faber's implication seems clear; given that the superficial promotion of climate awareness within contemporary societies lies 'out of all proportion to the time, energy, and effort going into designing a systemic solution' to the root causes of the climate crisis, it may well be that the (post)human insomnia evoked by *The Book of Strange New Things* is soon to become an everyday reality outside of the realm of fiction.[239]

Peter finds that the sentient native species of Oasis is a non-humanoid being,[240] with a face that uncannily appears 'nothing like a face [...] resembl[ing] a placenta with two foetuses - maybe three-month-old twins, hairless and blind - nestled head to head, knee to knee' (p.

[237] Hayles, 'The Life Cycle of Cyborgs', p. 247.
[238] Faber, *The Book of Strange New Things*, p. 179. An allusion, like all the novel's other section titles, to the biblical verse Matthew 6:10.
[239] Thomas L. Friedman, *Hot, Flat, and Crowded: Why the World Needs a Green Revolution - And How We Can Renew Our Global Future* (London: Penguin, 2008), p. 206.
[240] That is, the Oasans are *presumed* by the (post)humans of the novel to be the only sentient species of Oasis.

121). The Oasans are further radically defamiliarized by their seemingly unfathomable language; one line of their dialogue for example, is inscribed in the novel as '**ᔑᓭᓂᓄᓇᓵᔑ ᓂᓄᓂᓂᓭ ᓂᓄᓂᓂᓭ**' (p. 222). The conclusion that the Oasan's language is not logographic is evidenced by the fact that the font in which it is set is designed to be directly transcribed into characters from Latin script, and yet the words quoted above translate to the equally unintelligible 'kjdfrh djf rnfdn' by a simple transcription of each letter for its equivalent in Latin script.[241] Hence, the abnormal typeface used to record the Oasans' native language further epitomizes the stark species contrast between them and Peter, and just as the Oasan language is a near absolute novum which refutes the (post)human reader's means of linguistic cognition, the native fauna of Oasis are likewise nova too, exhibiting 'no distinction between blossom, leaf and stalk' (p. 109). Nevertheless, whilst the novel's principal nova occur through Peter's evangelistic attempts to convey the Christian Gospel to the thoroughly unfamiliar Oasans, these same nova are undergirded by the recurrent interposition of transmissions from an Earth upon which the social mundane is fast becoming equally unfamiliar. The first transmission Peter receives from Bea after arriving on Oasis includes an ostensibly mundane aside about the weather, which:

> has been terrible since [he] left. Heavy downpours every day. [...] There's been flooding in some towns in the Midlands, cars floating down the street, etc. We're OK except that the toilet bowl is slow to drain after a flush, ditto the plughole in the shower cubicle. (p. 94)

Bea reports this recent spell of unsavoury weather in a matter-of-fact tone, and seems less concerned about its palpable - yet presumably temporary - brunt on society, than she is about its minor impact on her own familiar suburbanite existence. Indeed, the reticence of

[241] Nate Piekos, 'We Come In Peace BB Font Family', *1001 Fonts*, 6 February 2014 <https://www.1001fonts.com/we-come-in-peace-bb-font.html> [accessed 9 July 2018].

(post)human societies to recognize the gradually escalating effects of 'Climate change has now got to the point where the elephant is all but filling the room. We may now talk about it, but we still deny it'.[242] Since spats of bad weather themselves would appear not to be that far out of the ordinary, they are not notable enough to become a cause for concern or sustained reflection, unlike Bea's drainage situation, which is evidently a perturbing inconvenience for her. Worryingly then, if there 'appears to be no common view on the role that renewables will play in 2050 amongst experts from the conventional and renewables industries, the scientific community and policy makers', this is at least partially due the difficulty of conceiving that incremental - and hence primarily irritating - changes in local weather systems are symptomatic of only the beginning of a far wider-reaching anthropogenic planetary crisis.[243]

When Bea chastises Peter that 'You just don't seem to appreciate how fast and how frighteningly and how MUCH things have changed',[244] her frenzied proclamation forebodes the drastic disruption and strife that future generations of (post)humans will almost undoubtedly have to undergo on a habitual basis, since 'Much of the impact of climate change already is locked in'.[245] Indeed, the onset of anthropogenic climate change is already 'all around us, in the form of rising sea levels, intense storms, declining snowpack, costly droughts, heat waves, and worrisome trends in disease patterns'.[246] Although many texts within the SF genre anticipate posthuman futures based on the assumption that there will continue to exist a continuum of posthumanity, we may only achieve a very limited attainment of the hypothesized further stages of posthuman progression. As of Bea's second

[242] Haydn Washington and John Cook, *Climate Change Denial: Heads in the Sand* (London: Earthscan, 2011), p. 3.
[243] *Renewables Global Futures Report: Great Debates Towards 100% Renewable Energy* (Paris: REN21 Secretariat, 2017), p. 27.
[244] Faber, *The Book of Strange New Things*, p. 428. Emphasis in original.
[245] Daniel J. Fiorino, *Can Democracy Handle Climate Change?* (Cambridge: Polity, 2018), p. 104.
[246] Fiorino, *Can Democracy Handle Climate Change?*, p. 104.

Shoot transmission, anthropogenic climate change has become a major component of public consciousness and everyday reality, as is evident by her message's tragic opening:

> There has been a terrible tragedy in the Maldives. A tidal wave. It was the height of the tourist season. The place was teeming with visitors and it's got a population of about a third of a million. Had. [...] It's one vast swamp of bodies. You see it on the news footage but you can't take it in. (p. 126)

Erratic weather continues to intrude further upon Bea's mundane existence, as 'blank space' (p. 128) begins to gradually overtake supermarket shelves, and it consequently becomes progressively harder for Peter to reconcile his wife's traumatic experiences of the increasingly hostile[247] Earth with 'his own glad tidings' (p. 129) from his missionary successes on Oasis. Accordingly, every newness in the novel is counterpointed by the obliquely glimpsed impacts of climate change back on Earth, and Foucault's prophecy of humanity being 'erased, like a face drawn in sand at the edge of the sea' rapidly becomes identifiable in terms that exceed the merely theoretical.[248]

Bea's third communication is shorter, and shows evidence that adverse living conditions have become her new normality, as is indicated by the bracketed (and hence barely notable) portion of the sentence 'I really must go now and have a shower (assuming the plumbing hasn't gone bung again)' (p. 158). Accordingly, Bea's weary bracketed aside seems to corroborate Wallace-Wells' prediction that 'In a six-degree-warmer world, the Earth's ecosystem will boil with so many natural disasters that we will just start calling them "weather"'.[249] Although Naomi Klein argues that the inciting moment for environmental awareness may be brought about by any one major natural disaster, as 'the world tends to look a little different when the objects we have worked our whole lives to accumulate are

[247] From an anthropocentric position.
[248] Michel Foucault, *The Order of Things: An archaeology of the human sciences* (London: Routledge, 2003), p. 422.
[249] Wallace-Wells, 'The Uninhabitable Earth'.

suddenly floating down the street', our species' proficiency in coming to terms with what was previously alien should not be underestimated whatsoever.[250] Somewhat predictably then, Bea's fourth message to Peter first confirms that 'The Maldives tragedy has dropped out of the media' (p. 173), before continuing to disclose that in the UK 'The rain was ridiculous, it didn't let up for five hours, full pelt. There were torrents flowing along the footpaths; the drains just aren't designed to take that kind of volume' (p. 174). Evidently Bea's new "normal" standards of weather, and hence conditions of (post)human existence, are fundamentally abnormal by prior standards. Haydn Washington and John Cook note that 'Historically, fear of change probably made sense, as change was often bad news. However, today the change is happening whether we like it or not, due to our actions' and inactions in everyday (post)human life.[251] Thus although the mundane activities we undertake from day-to-day appear ephemeral in nature, their daily enactment has a lasting impact on our planet.

Bea's eleven successive messages are far more ominous in tone:

> things are falling apart fast. [...] In our local supermarket there are apology stickers on most of the shelves, empty spaces everywhere. [...] The news says that the supply problems are due to the chaos on the motorways because of the earthquake in Bedworth a few days back. (p. 233)

The ineptitude of this one Tesco branch to locate an alternate supplier is emblematic of our species-wide unwillingness to adjust established routines in times of crisis, a behaviour which extends beyond the personal sphere. Typically 'we assume climate change will hit hardest elsewhere, not everywhere',[252] and thus although having to significantly alter our familiar practices to appease an intangible entity is never going to be a popular choice, we must come to recognize that beliefs 'that we can solve the climate crisis without having to change our

[250] Naomi Klein, *This Changes Everything: Capitalism vs. the Climate* (London: Penguin, 2015), p. 465.
[251] Washington and Cook, *Climate Change Denial*, p. 90.
[252] Wallace-Wells, 'The Uninhabitable Earth'.

lifestyles in any way'[253] are deeply flawed. Furthermore, Bea reports that 'A large chunk of North Korea was wiped out a few days ago. Not by a nuclear strike, or even a nuclear accident, but by a cyclone called Toraji. [...] It was surreal' (p. 238). Soon after, 'the snow leopard is extinct' (p. 250), Tesco has 'gone bust' (p. 337), a 'volcanic eruption has destroyed one of the most densely populated cities in Guatemala' (p. 354), and 'Some of the wealthiest people in America were murdered [...] dragged out of their homes and beaten to death' (p. 355). The immense rate at which these successive cataclysmic events impact (post)human society, coupled with their indiscriminate nature, makes Bea's reports truly horrifying. Peter eventually becomes so perturbed by Bea's communiqués that he begins to feel 'feverish and dehydrated' (p. 357) after reading her messages, and hallucinates a voice shouting '*WHAT THE FUCK ARE YOU DOING?*',[254] which admonishes him for being separated from the disastrous events unfolding back on Earth. Importantly though, this yelled invective also implicates the reader in Peter's guilt vicariously, provoking them to interrogate their own modes of interaction with their host planet, and seek modes of reparation.

One notable philosophy of alternate relation that, if implemented, would go some way towards mending the harmful relationship between the (post)human species and the Earth is Kate Raworth's, which proposes that 'This century needs economic thinking that unleashes regenerative [industrial] design in order to create a circular - not linear - economy, and to restore humans as full participants in Earth's cyclical processes of life'.[255] Such a symbiotic mode of relation has certainly not been attained in *The Stone Gods* however; a novel in which (post)humanity repeatedly becomes technologically developed enough to become an interplanetary species only through environmental necessity. Its (post)humans conceptualize

[253] Klein, *This Changes Everything*, p. 232.
[254] Faber, *The Book of Strange New Things*, p. 358. Emphasis in original.
[255] Kate Raworth, *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist* (London: Random House, 2018), p. 29. Raworth proposes the figure of The Doughnut as a radical, sustainable and yet practical alternative economic model to the perpetual pursuit of GDP growth. Please see appendix 27.

their subsequent planetary exoduses as 'only natural'[256] deeply ironically, given that the need for 'moving on' (p. 4) is entirely resultant of their destruction of the natural. The opening of the text's narrative focuses upon the (post)human civilization of Orbus, who have been funding '*the* space mission for hundreds of years',[257] a myopic and fervent global agenda that is revealing of their preoccupation with escaping their originary planet. Despite assertions that on the following planet they inhabit 'we'll be more careful. This time we will learn from our mistakes' (p. 7), the 'Planet Blue' (p. 74) which the population of Orbus has earmarked for inhabitation is none other than Earth itself, and so it immediately seems inevitable that the enduring planetary symbiosis they seek is fated to elude them once again.

By depicting climate change as a planetary function common to numerous planets which readily delimits (post)human development, *The Stone Gods* therefore insinuates that our species needs to constantly find new ways of reminding itself of its planet's significance if it is to avoid the catastrophic mistake of taking it for granted. Yet the process of fostering effective environmental awareness is no easy task in itself. Klein states that:

> it's hard to keep [climate change] in your head for very long. We engage in this odd form of on-again-off-again ecological amnesia for perfectly rational reasons. We deny because we fear that letting in the full reality of this crisis will change everything.[258]

Likewise, when Bloch suggests that newness 'circulates in the mind in first love, also in the feeling of spring; [...] It permeates, though it is forgotten time and again', he emphasises that from a phenomenological perspective all novelty fades in significance, becomes a matter of routine, and is supplanted by fixation on a new affect object.[259] Accordingly, *The Stone Gods* strongly implies that Orbus itself was not humanity's originary cosmic locale, but rather that

[256] Jeanette Winterson, *The Stone Gods* (London: Penguin, 2008), p. 4. All further references will be given in the body of the text.
[257] Winterson, *The Stone Gods*, p. 5. Emphasis mine.
[258] Klein, *This Changes Everything*, p. 4.
[259] Bloch, *The Principle of Hope - Volume One*, p. 200.

its (post)humans came from a precursor planet too, as members of the crew sent to colonize Planet Blue recount in the form of a tale about the discovery of artefacts on 'Planet White [which] shares the sun of Planet Blue' (p. 64). Since Planet Blue is Earth; Planet White is stated to have 'an atmosphere that is ninety-seven per cent carbon dioxide' (p. 64); and 'carbon dioxide constitutes 97 per cent of the Venusian atmosphere';[260] it is safe to assume that (post)humanity has moved from Venus, to Orbus, and then back to their previous planet's next-door-neighbour. Winterson's ludic implication is therefore that (post)humanity's civilizational progress is fundamentally recursive, that we move from planet to planet, irrevocably devastating each one with our voracity and short-sightedness, before developing spacecraft sufficient to move us to another host planet just in time to escape annihilation.

Correspondingly, one notable explanation of the Fermi Paradox proposes that the disparity between the lack of evidence of extraterrestrial life and its high theoretical probability given that there are 'an astronomical number of exoplanets'[261] is resultant of a '"Great Filter" along the path between simple dead stuff and explosive life'.[262] Interpreted this way, Fermi's paradox becomes a compelling imperative to action on ecological grounds, a call to alter the customary consumerist lifestyles by which 'If we continue to make single-use plastics at the same pace [as at present], by 2050 we are going to be dealing with an ocean that has more plastic in it, by weight, than fish'.[263] Hence by the conclusion of *The Stone Gods*, the planet that (post)humanity has settled is once more ecologically devastated, to the extent that Billie, meeting a person named Alaska, has no referent to determine her

[260] William J. Kaufmann III, *Exploration of the Solar System* (London: Macmillan, 1978), p. 369.
[261] Vilhelm Verendel and Olle Häggström, 'Fermi's Paradox, Extraterrestrial Life and the Future of Humanity: A Bayesian Analysis', *International Journal of Astrobiology*, 16.1 (2017), 14 - 18 (p. 14).
[262] Robin Hanson, 'The Great Filter - Are We Almost Past It?', 15 September 1998 <http://mason.gmu.edu/~rhanson/greatfilter.html> [accessed 13 July 2018]. Emphasis in original.
[263] Keith Allaun, 'Fuel For Thought: How To Transform Waste Plastic', *Global Cause*, 8 June 2018 <http://www.globalcause.co.uk/plastic/fuel-for-thought-how-to-transform-waste-plastic> [accessed 1 July 2018].

namesake, and presumes that her name is 'perhaps to match the colour code' (p. 206), implying that the American state has in her time been drilled right out of existence. Likewise, the multinational MORE corporation which had subsumed the political system by growing large enough to take 'over the Central Power' (p. 71) on Orbus is soon reincarnated on Earth, coming to exert a monopoly over 'every station' (p. 231) of television. Indeed, there is a disparaging *amor fati* in the way *The Stone Gods* portrays collective (post)human societies as existentially greedy, and presumes that we will always revert to type and prize fiscal gain over ecological considerations, perpetually attempting to achieve economic growth purely for the sake of achieving economic growth.

Unfortunately, the novel's misanthropic contentions only seem to have been confirmed by the often insincere and largely fiscally motivated "ecological advances" that have ensued since its publication. Although following the 2015 Paris Climate Change Agreement, in the financial sector there has been 'a huge upswing of investment in "green" bonds that profess to finance long-term projects needed to fight against climate change', these bonds often do not sufficiently discriminate between the technologies they invest in.[264] Hence purportedly green bonds support hydroelectric technologies, which despite generating renewable energy also 'flood ecosystems, displace thousands of people and spread waterborne diseases', and so have a negative impact on the environment on aggregate.[265]

Capitalism and consumerism are an anathema to ecological harmony then, as *The Stone Gods* makes apparent, in one instance, through its imagery of 'the huge double laser-arches [...] giant golden Ms [...], glittering under the sky, adapting to the weather' (p. 31). This passage's defamiliarized depiction of the ubiquitous McDonald's logo suggests that billboards on Orbus have been implanted with a technology which makes them adaptive to the changing weather around them, presumably in order that the company's logo can be

[264] Fred Pearce, 'The Colour of Money', *New Scientist*, 23 June 2018, 36 - 39 (p. 36).
[265] Pearce, 'The Colour of Money', p. 39.

glimpsed by potential customers in any light conditions. An incredibly bathetic use of technology, expending finite energy resources in order to attempt to prospectively fetch a corporation a somewhat bigger revenue, this sign demonstrates the dangerous fallacy that our species' priorities should be geared towards economic growth regardless of the resultant impact on the environment. As Fred Pearce states, 'The fixation on fast returns makes [capitalism] seemingly ill-equipped to cope with a long-term problem like climate change',[266] and indeed the (post)humans of Orbus absurdly consider that 'Without a doubt, parking is the number-one issue facing the[ir] world' (p. 42). Yet this knife cuts both ways; we ourselves are just as short sighted as the ludicrously ignorant citizens of Orbus, since the day-to-day lives we are living today will detrimentally impact the everyday lives of future generations of (post)humans.

Nevertheless, many of the proposed actions to achieve environmental sustainability that conclude Aric McBay, Lierre Keith and Derrick Jensen's book *Deep Green Resistance* would appear preposterous to the vast majority of individuals of our species, being as deeply habituated to the petty vicissitudes of modern capitalist life as we are. Problematically, the book's suggestion of actions by which to approach ecological reconciliation, which include 'forming an underground group' and endeavouring to 'Mobilize people to undertake civil disobedience or related tactics', presume that a considered understanding of the calamitous import of the anthropocene is common across (post)human societies globally.[267] Furthermore, *Deep Green Resistance* presumes that (post)humans will be prepared to selflessly sacrifice both the security of everyday routines and many of their material possessions in the attempt to assure a future for successive generations of (post)humans, an outcome which will only be attainable if such action is undertaken *en masse*. The authors' suggested actions, for example,

[266] Pearce, 'The Colour of Money', p. 36.
[267] Aric McBay, Lierre Keith, and Derrick Jensen, *Deep Green Resistance: Strategy to Save the Planet* (New York: Seven Stories Press, 2011), p. 519.

include such massive shifts to quotidian social life as 'not using Facebook, Myspace, etc.'[268] and 'Abstaining from drugs and alcohol',[269] protocols which neglect to recognize that an individual's family commitments, social engagements and financial constraints are all profoundly entrenched components of modern life which would prove incompatible with radical forms of activism, and hence prohibit many individuals undertaking such belligerent actions.

More realistically, the near-global predominance of anthropocentric ideologies encourages us to always 'want the human story' (p. 36) and consider only the short-term and human-related implications of any action, due to conceiving ourselves to be 'The only intelligent life in the Universe [...]. Solitary, privileged' (p. 67). If environmental sustainability is ever to become prevalent, it will only be able to do so by fostering alternative ideologies which emphasize that 'we are inherently worldly beings, deeply rooted in the process of evolution, [...] participants in the process of life, sharing a great many traits with other living beings'.[270] As Billie asserts, 'Human beings aren't just in a mess, we are a mess' (p. 216), and accordingly contemporary (post)human societies ought to pay close attention to Klein's avowal that 'the solution to global warming is not to fix the world, it is to fix ourselves'.[271] Importantly in this respect, unlike in *The Stone Gods'* diegetic world we do not yet possess any reliable means of interstellar travel, so unless Mars proves preternaturally susceptible to colonization,[272] once we enter the stage of runaway warming there will be no option for us of (post)humanity simply 'beginning again differently' (p. 39) by relocating to a nearby planet.

[268] McBay, Keith and Jensen, *Deep Green Resistance*, p. 519. The latter social network the authors name here is already laughably obsolete, such is the pace at which technologies develop in the modern world.
[269] McBay, Keith and Jensen, *Deep Green Resistance*, p. 520.
[270] Wolfgang Welsch, 'Postmodernism - Posthumanism - Evolutionary Anthropology', *Journal of Posthuman Studies* 1.1 (2017), 75 - 86 (p. 76).
[271] Klein, *This Changes Everything*, p. 279.
[272] Unluckily, recent research suggests that it will be impossible to terraform Mars in the foreseeable future. See Jakosky and Edwards, 2018.

Although the opening line of Kim Stanley Robinson's *Mars Trilogy* is '*Mars was empty before we came.* [...] *We are all the consciousness that Mars has ever had*',[273] the erroneousness of such neo-colonialist ideologies is rigorously challenged throughout the *Trilogy*. At the series' outset, this line of dialogue posits an exceedingly anthropocentric appraisal of Mars, envisioning that (post)humans have an entitlement akin to manifest destiny to settle their neighbouring planet, a planet which has only gained any degree of consequence by virtue of their settlement of it. This narratorial persona then, entirely fails to recognize that because 'Humans neither exist, nor have they developed, independently of other animate and inanimate systems', they will always remain interrelated within the stochastically complex systems which comprise any planetary environment.[274]

Subsequently, the first settlers of the eponymous planet of the *Trilogy* choose to artificially temporally regulate the Martian day, a feat brought about by 'the Martian time-slip, the thirty-nine and a half minute gap between 12:00:00 and 12:00:01, when all the clocks went blank or stopped moving' (*RM*, p. 33). The re-imposition of the familiar diurnal day not only brings an illusory sense of naturalness to their inhabitation of the alien planet, but also allows the (post)humans inhabiting Mars to approximate habitual sleep patterns, and hence begin to re-establish society, which is itself undergirded by the habitual. Nevertheless, the settlers perceive that 'something in the slant and redness of the light was fundamentally wrong' (*RM*, p. 25), the planet's marginally different visible light spectrum being enough to upset 'expectations wired into the savannah brain over millions of years' (*RM*, p. 25).

Here, an evocative sense of the colossal vastness of the posthuman continuum emphasises just how irregular it is for our species to have ever had the need to inhabit Mars as a surrogate Earth, reminding readers that we will never find another planet that is as suited

[273] Kim Stanley Robinson, *Red Mars* (London: HarperCollins, 2009), p. 13. Emphasis in original. All further references to each novel of the *Mars Trilogy* will be given in the body of the text, in the form *RM*, *GM* or *BM* in place of *Red Mars*, *Green Mars* and *Blue Mars* respectively.
[274] Erika Cudworth and Stephen Hobden, *Posthuman International Relations: Complexity, Ecologism and Global Politics* (London: Zed Books, 2011), p. 187.

to our species' idiosyncrasies as Earth is, since we evolved here, and thus are highly adapted to living here. Correspondingly, it is only midway through the second book of the *Mars Trilogy* at which (post)humans are finally able to brave the Martian atmosphere, and get 'their clothes off' outside of settlements or buildings (*GM*, p. 432).

Although Mars is perceived as a chance to start again, a 'blank red slate' (*RM*, p. 108) for the crew of the Ares to write upon, it is a *tabula rasa* which proves challenging to inscribe. After landing, 'for day after day after day [there is] No change in the weather to speak of' (*RM*, p. 135), and to disrupt this monotonous meteorological trend, the first Martians find it necessary to thicken the atmosphere in order to gradually make the planet more Earth-like, and hence more conducive to (post)human life. Although many (post)humans on both Mars and Earth disagree with this course of action, many other groups with an interest in Mars desire the planet to become a facsimile of Earth, a process of terraforming which is effected through methods which include the creation of an aerial lens that makes 'the light some twenty percent greater than before' (*GM*, p. 179).

It is deeply ironic then that years after Mars has first been settled, the (post)humans back on Earth are fast 'running out of oil' (*RM*, p. 298), and so start 'mining and oil drilling' (*RM*, p. 298) in Antarctica. Subsequently, transnational corporations from Earth soon attempt to lay a claim on Mars, and call for it to be further terraformed under the rationale that 'we're all colonies now' (*RM*, p. 460). Like Winterson then, Robinson conceives that capitalist and ecological modes of thought utterly contradict each other. Yet as Erika Cudworth and Stephen Hobden highlight, 'the state system, global capitalism, the agricultural system and the biosphere' have all emerged through a process of autopoetic co-evolution, and so these phenomena are not individually mutable, but rather invariably anastomotic as formations emergent from (post)human societies.[275]

[275] Cudworth and Hobden, *Posthuman International Relations*, p. 108.

Whilst the great flood that decimates large parts of Earth in the *Trilogy* is not caused by anthropogenic climate change, and instead by '*a cluster of violent volcanic eruptions under the West Antarctic ice sheet*',[276] it is notwithstanding exacerbated by the effects of (post)human overpopulation, which has by the year 2128 far exceeded Earth's carrying capacity. Hence, the colonists of Mars are soon overwhelmed by immigrants from Earth fleeing the effects of anthropogenic overpopulation, as Mars is eulogized as a way of 'saving Earth from overpopulation with the gift of empty land' (*BM*, p. 346). Even beyond our direct influence upon our climate then, 'Human systems are embedded within a number of non-human systems, with the consequence that developments in one system may have implications elsewhere in the panarchy'.[277]

The immensely interwoven nature of Earth's planetary mechanisms can be seen in practice through recent evidence that (post)human activities are indirectly causing the ocean's seafloor to sink:

> Due to changes in the land ice mass balance and land hydrology, the oceans have gained mass over the past decades [...], which results in an increase of the total load on the ocean bottom. Under this increasing load, the ocean floor will subside due to elastic deformation.[278]

This is a situation so postnatural it seems unreal, and it is once more revealing of the massive extent to which our everyday routines quite literally matter, since they have incredibly far-ranging effects on our host planet. Fitly, the World Wide Fund for Nature's website specifies in particular that 'Small actions can make a big difference', and suggests that the best way for individuals to help combat climate change is to change small aspects of their daily routine,

[276] Kim Stanley Robinson, *Blue Mars* (London: HarperCollins, 2009), p. 167. Emphasis in original.
[277] Cudworth and Hobden, *Posthuman International Relations*, p. 138.
[278] Thomas Frederikse, Riccardo E.M. Riva, and Matt A. King, 'Ocean Bottom Deformation Due To Present-Day Mass Redistribution and Its Impact on Sea Level Observations', *Geophysical Research Letters*, 44.12 (2017), 306 - 314 (p. 306).

such as by using a reusable coffee cup, turning their washing down to 30ºC, or avoiding the use of plastic cutlery.[279] Although these suggestions are laudable, even presuming that the vast majority of individuals were to implement these changes to their quotidian habits, it would likely do little to alleviate the existential crisis that anthropogenic climate change amounts to. If consummate symbiosis between (post)humans and the Earth is ever to be achieved, far more substantial alterations to our habitual practices will be necessary.

Eventually the (post)humans of Mars have lived on Mars for so long, and their cultures have diverged so far from those of their host planet, that the chance to see Earth would be 'So interesting that no rational person could pass up the opportunity' (*BM*, p. 109) at it. Accordingly, 102 years after the Ares mission departed Earth, a small number of the crew and their descendants return briefly as ambassadors for Mars. As a (post)human born on Mars, Nirgal's acute feeling of euphoria at his first experience of Earth is palpable. Able to distinguish 'Fifty different shades of green on the hills' (*BM*, p. 175) for the first time in his life, he experiences sensory overload, and finds the natural beauty and enormity of Earth incredibly overbearing. After becoming acclimatized to the planet however, Nirgal realizes that he has a strong desire to inhabit 'a home place that had something like these tile roofs, these stone walls, here and solid these last thousand years' (*BM*, p. 192).

In contrast, on Mars his life has consisted of his 'home town [being] crushed under a polar cap [...] and every place since then had been just a place, and everything everywhere always changing' (*BM*, p. 192). Martian life is defined by constant strife and precarity, whereas life on Earth was defined by stability for near innumerable generations, until recently when climate change began to gradually make the planet inhospitable to (post)humans. Nirgal therefore has a desperate urge to experience a truly quotidian social life, which Mars has failed to provide for him, but which Earth too can no longer provide either. There is more

[279] 'The Effects of Climate Change', *WWF*, 27 August 2012 <https://www.wwf.org.uk/effectsofclimatechange> [accessed 1 July 2018].

than a hint of satire here. Earth has, to the Martians, become a planet which is alien, and hence they desire to experience and imaginatively colonize its novelty, whereas life on Mars seems all too familiar to them. The Martian desire to see Earth thereby lampoons the reader of the text, since despite occupying the privileged position of being able to experience a largely unspoiled Earth automatically and corporeally, they are currently choosing to spend their time reading a grass-is-always-greener SF novel which - to some extent at least - fetishises the idea of leaving Earth behind for another planet.

Fascinatingly then, despite Mars being the titular planet of the *Trilogy*, when the Swiss Alps are described as a 'majestic white range' (*BM*, p. 190) in the chapter set on Earth, it is one of only two times in the entire *Mars Trilogy* that the word majestic is used, the other instance being immediately qualified by the word 'ludicrous' (*BM*, p. 132). By having Nirgal arrive on Earth as a (post)human born on Mars, Robinson is able to depict our own planet through a principally defamiliarized lens, and hence show us how beautiful, breathtaking and appropriate our originary planet already is. As such, Earth's postnatural splendour directly contrasts all the strife within the *Trilogy's* narrative which has been provoked as a by-product of the attempts to make Mars inhabitable.

In our own world, Earth's current planetary conditions, in fact, are unusually attuned to sustaining life, to the extent that without (post)human influence the Earth's 'benevolent conditions would be likely to continue for another 50,000 years due to the unusually circular orbit that Earth is currently making of the sun - a phenomenon so rare that it last happened 400,000 years ago'.[280] The more that we come to recognize that our complexity as a species pales in comparison with Earth's own complexity, the likelier we are to care for the amazing planetary body we inhabit. Thus the *Mars Trilogy's* true novum should not be considered to be Mars, or any of the events or technologies that are created upon it, but Earth, which the

[280] Raworth, *Doughnut Economics*, p. 48.

text attempts to defamiliarize the reader's conception of, in order that they come to care for it anew.

In the mundane SF milieu of Bacigalupi's *The Water Knife*, Arizona's water reserves have run out, not only because its inhabitants 'hadn't been able to see something that was plain as day, coming straight at them',[281] but also because climate change in the local region has contributed to water supplies having become unreliable. Consequently the (post)human technological mundane has been ruptured, and the (post)humans of the novel's diegesis are far more preoccupied with securing and preserving reliable sources of water for themselves than with utilizing any ancillary form of technology. The corresponding rupture of Lucy's society is evident in the disparity between the bucolic character of her webchat call to her relatives in 'green safe' (p. 76) Vancouver, and the house which she is calling from in Arizona, where 'A truck idle[s] in the alley behind [her] house, a predatory gasoline growl. It had been rumbling outside for ten minutes and didn't seem to be leaving' (p. 74). The call seems to tantalizingly leave the 'two realities separated only by a thin wafer of computer screen' (p. 76).

The novel deploys a number of near future nova, including 'data glasses' (p. 347) that appear to be able to store and retrieve information on the subject of their gaze in real time, and portable sources of 'medical growth stimulant' (p. 419) which vastly improve recovery times from injuries. And yet these nova are part of such a nightmare mundane social reality that their novelty seems irrelevant, and they barely make an impact on the novel's narrative whatsoever. This then, is a world where the (post)human fixation on technology has become decentered in favour of a now-mandatory fixation on the essential components of (post)human sustenance.

[281] Paolo Bacigalupi, *The Water Knife* (London: Orbit, 2016), p. 113. All further references will be given in the body of the text.

Whilst the Phoenix Development Board's promotional material for the Phoenix Rising campaign envisions 'a picture of a fiery bird spreading its wings behind a collage of laughing children' (p. 123), just beneath 'the billboard a security squad [armed with] M-16s' (p. 123) are herding the same civilians meant to be living in a city resurgent in fortune into waiting vehicles. In a world where corporate and governmental ideologies have become utterly irreconcilable with social reality, life has come to be starkly defined by water consumption, as is clear when Maria states that 'it made her nervous, staring at that pile of water they'd scored. Knowing the days of life it would support. Knowing that people would be inspired to just take it from her' (p. 90). Water is no longer a natural resource, but a precious commodity, which any engagement with is just as starkly necessary as it is deeply perilous. *The Water Knife's* near future vision is terrifying precisely because 'absent a significant adjustment to how billions of humans conduct their lives, parts of the Earth will likely become close to uninhabitable, and other parts horrifically inhospitable, as soon as the end of this century', so the Arizona it depicts is likely the Arizona of our species' future.[282]

At a refugee settlement at one point in the novel, 'Pure Life and Aquafina and CamelBak had set up relief tents. Getting good PR photos of how they cared for refugees' (p. 101), their underlying motive opportunistic rather than altruistically motivated. And yet, corporate interests and environmentally friendly policy can co-exist; Daniel J. Fiorino states that 'climate action delivers ecological, health, economic, and social benefits' when carefully enacted.[283] Additionally, George Monbiot outlines the benefits of a project which will 'reintroduce the complexity and trophic diversity in which our ecosystems are lacking' by allowing the range of species that constitute native wildlife to repopulate in less intensely postnatural conditions.[284] He concludes that the reintroduction of wolves to the Scottish

[282] Wallace-Wells, 'The Uninhabitable Earth'.
[283] Fiorino, *Can Democracy Handle Climate Change?*, p. 97.
[284] George Monbiot, *Feral: Rewilding the Land, Sea and Human Life* (London: Penguin, 2014), p. 117.

Highlands would actually make estates 'more profitable', by outsourcing the (post)human labour and resources necessary to regulate countless populations of deer to their natural predator.[285] Clearly as (post)humans, we need to actively strive to become more attuned to Earth's postnatural landscape, even whilst beginning to reverse the numerous processes that contribute towards postnaturalization.

Likewise in *The Water Knife*, many animals are managing to thrive even whilst (post)humanity finds itself in a state of catastrophe, as when they need to find water 'They'd smell it, anyway. Animals are better at this stuff than we are. Human beings, we're stupid in comparison to a coyote' (p. 114). In contrast to the 'resonances and charms of Big Dumb Objects' that the SF genre is usually obsessed with, Bacigalupi's novel is concerned with the Small Dumb Objects that (post)humans themselves are.[286] As 'The planet was, before its foodwebs were broken up, controlled by animals and plants [...] the earth functions as a coherent and self-regulating system' outside of (post)human influence, and we are the prime factor that prevents life on our planet from operating in an autopoietic manner.[287] The extent of (post)humanity's stupidity is patent once more when, after waking in a wealthy suitor's apartment, Maria is amazed that when she turns on the shower 'More water than all of her score at the Red Cross pump gushed down her body and disappeared down the drain' (p. 214). In the novel, climate change has only perpetuated and worsened extant inequalities, even whilst the social mundane of the wealthy has continued unabated. Maria's suitor is like all of us; he truly does not 'realize the magic of his life' (p. 216), a life sustained by an abundance of everyday conveniences which are taken entirely for granted.

As Bichard realizes however, 'The social implication of [climate change] will be that the vulnerable and the less well-off will suffer first and disproportionately [but that]

[285] Monbiot, *Feral*, p. 116.
[286] Roz Kaveney, 'Science Fiction in the 1970's: Some Dominant Themes and Personalities', *Foundation: The Review of Science Fiction*, 22 (1981), 5 - 35 (p. 25).
[287] Monbiot, *Feral*, p. 242.

Ultimately everyone will suffer as the fabric of society unravels', and so it is pure lunacy for bourgeois individuals to feel themselves exempt from the coming repercussions of our detrimental impact on our host planet.[288] In Bacigalupi's novel, Lucy discovers that regardless of 'all the statistics of people displaced by tornadoes and hurricanes and swamped coastlines, these piled corpses [...] struck [her] more forcefully' (p. 135). As (post)humans, we have a regrettable inability to conceptualize large amounts of human suffering unless the evidence is right in front of us, since 'we are highly adaptive [...] The first time we see a body or an atrocity, we are apt to react with horror and sympathy, but even by the second exposure, such reactions are likely to be greatly attenuated'.[289] If the nightmare world depicted in *The Water Knife* is to be circumvented, it must be understood that psychologically, 'climate change has more potency [...] as a mobilising idea than it does as a physical phenomenon', just as the *flying signifier* of the posthuman does.[290]

Hence Critical Posthumanism and Ecological Studies, being epistemologies based as they are around prospective concepts, should come to act in a strong reciprocal accord and not only mutually inform each other's discursive insights, but actually direct the course of each other's critical successions. What the (post)human nightmare territories of the eco-SF texts analysed in this chapter tell us, is that there is an urgent need for governments to 'become agnostic about [economic] growth, and to explore how economies that are currently financially, politically and socially addicted to growth could learn to live [...] without it'.[291] Although 'To a large degree, this vulnerability to climate change is beyond a government's control',[292] the correct way to proceed is nevertheless to produce 'achievable, effective

[288] Erik Bichard, *The Coming of Age of the Green Community: My Neighbourhood, My Planet* (London: Routledge, 2014), p. 120.
[289] George Loewenstein and Deborah A. Small, 'The Scarecrow and the Tin Man: The Vicissitudes of Human Sympathy and Caring', *Review of General Psychology*, 11.2 (2007), 112 - 126 (p. 118).
[290] Mike Hulme, *Why We Disagree About Climate Change* (Cambridge: Cambridge University Press, 2010), p. 328.
[291] Raworth, *Doughnut Economics*, p. 30.
[292] Fiorino, *Can Democracy Handle Climate Change?*, p. 104.

institutional reforms and political strategies',[293] as ultimately, the advent of new environmentally friendly modes of relationality and their associated technologies can only be 'enabled by an economic system that makes them feasible as investments'.[294] Otherwise, we will need to fully come to terms with the grim fatalism of Suvin's avowal that 'we and our ideologies are not the end product history has been laboring for from the time of the first saber-toothed tigers and Mesopotamian city-states'.[295]

[293] Fiorino, *Can Democracy Handle Climate Change?*, p. 111.
[294] Raworth, *Doughnut Economics*, p. 227.
[295] Suvin, *Metamorphoses of Science Fiction*, p. 83.

Conclusion

‘This never gets old’: To be continued...

> ‘*And I’m feelin’ the same way all over again* / *Feelin’ the same way all over again* / *Singin’ the same lines all over again* / *No matter how much I pretend*’
> - Norah Jones, ‘Feelin’ the Same Way’

This study has demonstrated that the prominent representation of the (post)human quotidian and its associated repetitive phenomena within works of SF comprises a fundamental drive of the genre, which functions to analogize the contiguousness of the (post)human present and its posthuman future. It has strenuously argued that Posthumanism and Transhumanism must reconceptualise the posthuman as a *flying signifier*, recognising the absolute importance of the many mundane elements of contemporary life that will contribute to its gradual achievement, if indeed it is to be achieved. The SF genre, it has been demonstrated, exhibits a posthuman dream, that encourages its readers to conceptualize the posthuman future as a state that lies on a gradual continuum with their own societies and lives embedded in the mundane.

This is by no means however, to suggest that the SF genre is the exclusive wellspring of artistic representations of the (post)human quotidian; rather the (post)human quotidian is a motif commonly evoked by a wide range of contemporary artistic media. It is no accident therefore, that the chapters of this study have been preceded by epigraphs from contemporary pop songs released within the last quarter-century, as with the above lyrics from the Norah Jones song ‘Feelin’ the Same Way’. In popular contemporary music, strophic song structures such as the verse-chorus form are ubiquitous, and musicological analysis of charting pop music suggests that song structures and lyrics are in fact generally becoming increasingly repetitive decade by decade.[296] Somewhat paradoxically however, novelty is also profoundly

[296] Colin Morris, ‘Are Pop Lyrics Getting More Repetitive?’, *The Pudding*, 11 May 2017 <https://pudding.cool/2017/05/song-repetition/index.html> [accessed 8 September 2018].

imperative to the success of popular music, as genres tend to lose 'audience interest and musical power' over time.[297] Furthermore, many artists' debut albums tend to receive more favourable critical appraisals than their later efforts, which are generally expected to demonstrate artistic development and evolve their familiar sound in an unfamiliar direction. It can therefore be conjectured that as with the SF genre, music is an art form whose constellation of meaning is intrinsically implicated with matters of newness and repetition.

Indeed, as John Rieder suggests, 'genres consist of relations between texts, so that texts do not belong to genres but rather use them', and so generic boundaries - including those of SF - are largely arbitrary.[298] Over the course of this study, in addition to written forms of literature, I have analysed popular music, a television show, and films as SF texts, however more accurately, it is the case that any text can be considered an SF text, regardless of its medium. Rieder states that:

> SF is organic to mass culture [and so] constructing, maintaining, and contesting the category of SF actively intervenes in promoting the distribution of a certain kind of fiction. It names that fiction, in the first place, bringing it into visibility and constituting it as an object.[299]

I would thereby like to conclude by contending that videogames encompass an artistic modality which is actually congenitally more SFnal than any of those modalities so far analysed within this study, since gaming actualizes a virtualized space where the (post)human vicariously accesses an almost direct intersection with the nova of the text's gameplay. Yet whilst the (post)human may access new forms of artistic engagement through the technological nova of videogames, the processes of interaction between the (post)human and

[297] Simon Frith, 'Can Music Progress? Reflections on the History of Popular Music', *Musicology* 7 (2007), 247 - 258 (p. 252).
[298] John Rieder, *Science Fiction and the Mass Cultural Genre System* (Middletown: Wesleyan University Press, 2017), p. 65
[299] Rieder, *Science Fiction and the Mass Cultural Genre System*, p. 10.

this novel form of media nonetheless parallel the reader's customary modes of interaction with the repetitive system of the SF genre.

This is particularly apparent in the gameplay of incremental SF games, wherein the (post)human player experiences a corporeal mode of interaction with a virtualized repetitive system. In the *Westworld* mobile game for example, players enact the role of a trainee member of staff playing the Delos Park Training Simulation which, as is established diegetically, utilizes the source code of the Cradle to simulate the park, its hosts, guests, and numerous Delos employees.[300] Although *Westworld* mobile is superficially free-to-play, it offers numerous microtransactions, in case the player should wish to advance at a greater pace, and reduce the amount of mundane tapping they have to complete in order to achieve the game's objectives.[301] Thus, a resolute irony is made apparent when Theresa informs the player that their objective is to 'maximize our bottom line'[302] within the game's tutorial, as the player's objective for Delos within the game mirrors the "real world" corporate agenda of the game, and so the line between the game's diegesis and reality becomes irreparably blurred.

In a further vein of hypocrisy, although season two of the television series seeks to thoroughly criticize corporate data mining practices, *Westworld's* mobile counterpart unironically requests access to data from the player's Google account before permitting them to enter the game's interface. Furthermore, if they wish to uncover and complete the game's deeper storyline, which will likely align far more closely with the show's moral ethos by its culmination,[303] players must first have spent weeks or months repeatedly subjecting hosts within the game to constant degradation and abuse at the hands of guests. As players gain

[300] Please see appendix 28.
[301] Please see appendices 29 and 30.
[302] Please see appendix 31.
[303] As of the 12th of September 2018, it is not yet possible to complete the *Westworld* mobile game, as like many incremental apps it is subject to periodic content updates, and hence the emerging narrative involving the /:Unknown_User is currently unresolved.

rewards for completing daily tasks that facilitate the proficient running of the park, they must become complicit in the mistreatment of hosts within the park, repeatedly, in order to advance within the game. It goes without saying that it is exceptionally spurious for the team responsible for the anarchic and visionary television series *Westworld* to have licensed such an unoriginal "clicker" game, in which the player's regular objective is to serve a faceless corporation, both in-game and in their own reality. What the problematic aspects of the *Westworld* mobile game make evident however, is that whether or not videogames are considered SFnal, the role of commercialization within the genre must be further critiqued.

This study has comprehensively argued that modern works of SF emphasize the continuum between the human and the (post)human through their repetitive systems and the decay of nova, in order to theorize a dreamscape of posthuman possibility. Further research would be required if it were to be determined whether earlier works within the SF megatext could also be read as being conversant with Critical Posthumanism.

30, 727 words

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Appendices

Appendix 1 - A frame from Rian Johnson's *Star Wars: The Last Jedi*.[304] © Walt Disney Studios Home Entertainment / Lucasfilm Ltd.

[304] Rian Johnson (dir.), *Star Wars: The Last Jedi* (Disney, 2018) [on DVD].

Appendix 2 - A frame from Rian Johnson's *Star Wars: The Last Jedi*.[305] © Walt Disney Studios Home Entertainment / Lucasfilm Ltd.

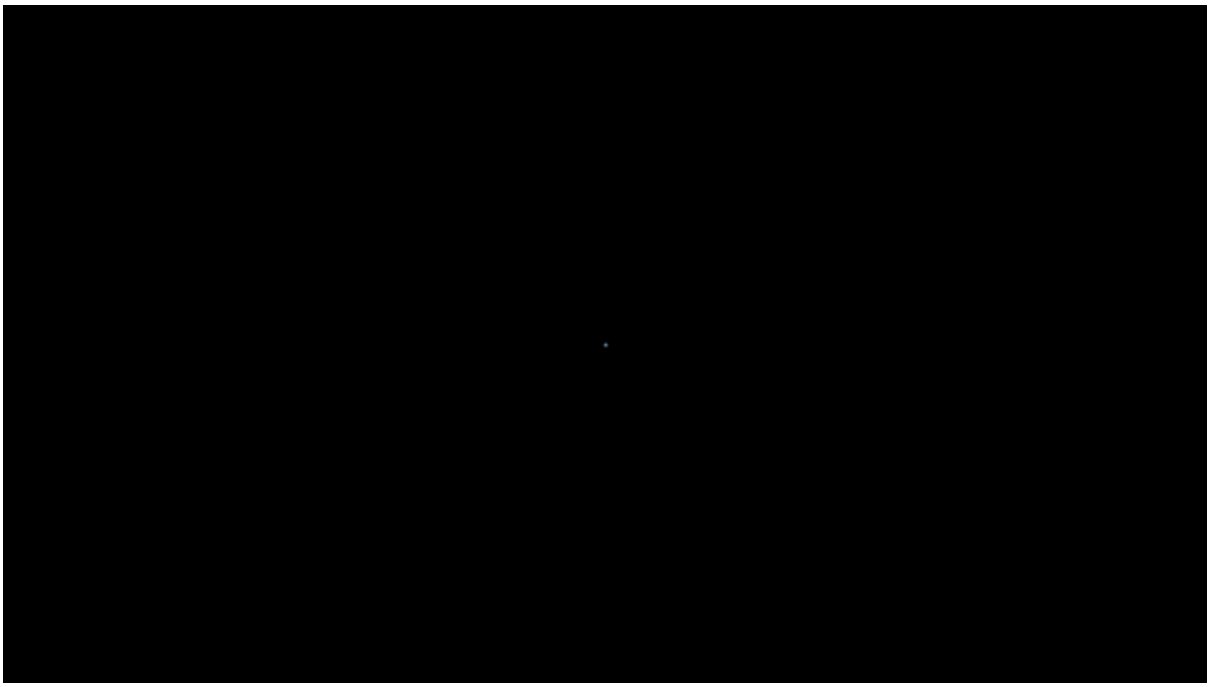
Appendix 3 - A frame from Rian Johnson's *Star Wars: The Last Jedi*.[306] © Walt Disney Studios Home Entertainment / Lucasfilm Ltd.

[305] Rian Johnson (dir.), *Star Wars: The Last Jedi* (Disney, 2018) [on DVD].
[306] Rian Johnson (dir.), *Star Wars: The Last Jedi* (Disney, 2018) [on DVD].

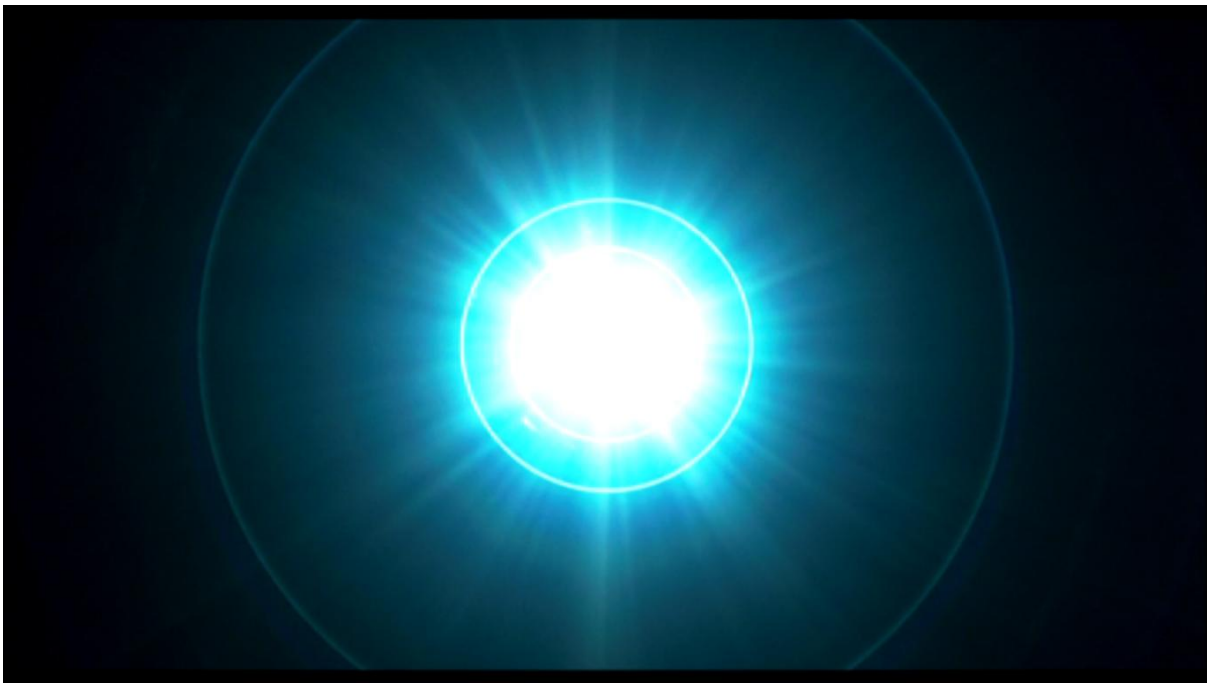
Appendix 4 - The album artwork of the clipping. album *Splendor & Misery*.[307] © Jay Shaw / Sub Pop Records.

[307] clipping., *Splendour & Misery* (Sub-Pop, SP 1173, 2016) [on CD].

Appendix 5 - A frame from Jonathan Glazer's *Under the Skin*.[308] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

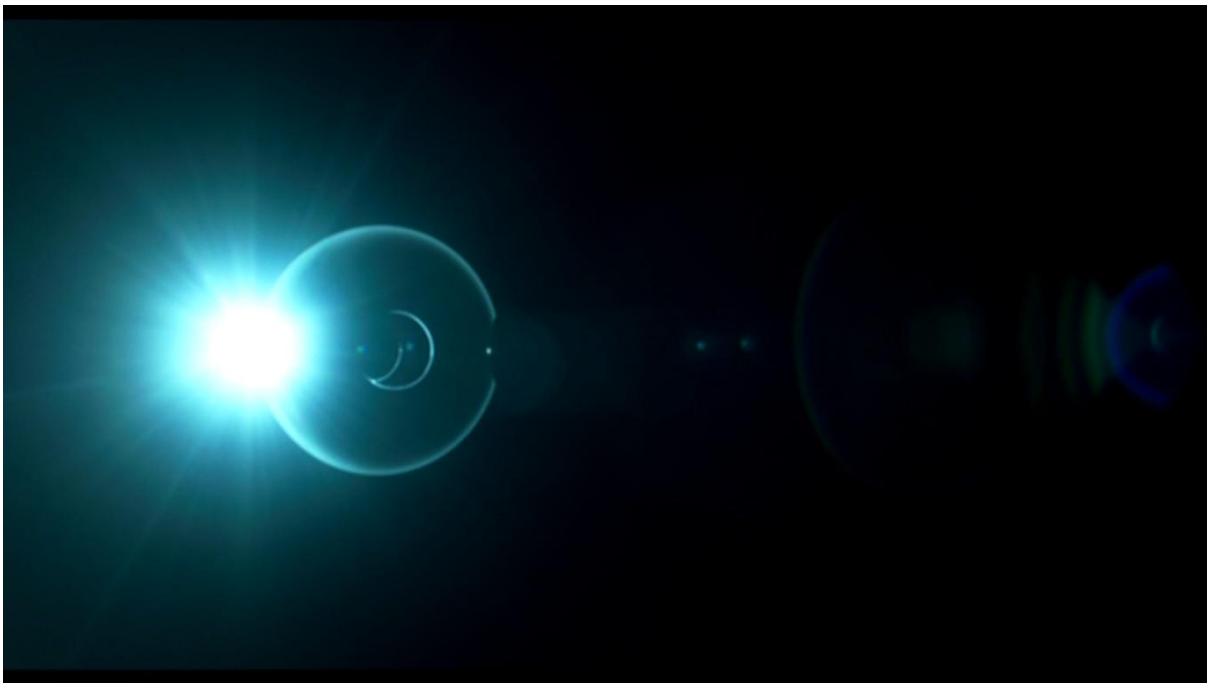


Appendix 6 - A frame from Jonathan Glazer's *Under the Skin*.[309] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

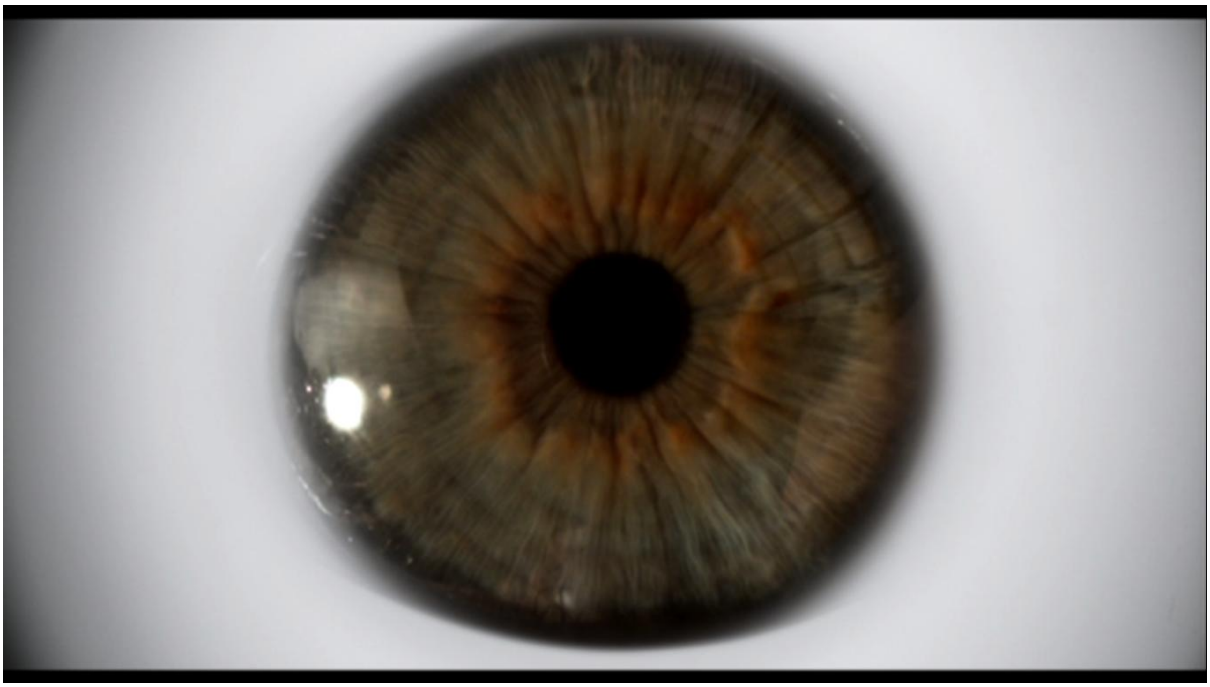


[308] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].
[309] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].

Appendix 7 - A frame from Jonathan Glazer's *Under the Skin*.[310] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.



Appendix 8 - A frame from Jonathan Glazer's *Under the Skin*.[311] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.



[310] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].
[311] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].

Appendix 9 - A frame from Jonathan Glazer's *Under the Skin*.[312] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

Appendix 10 - A frame from Jonathan Glazer's *Under the Skin*.[313] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

[312] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].
[313] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].

Appendix 11 - A frame from Jonathan Glazer's *Under the Skin*.[314] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

Appendix 12 - A frame from Jonathan Glazer's *Under the Skin*.[315] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

[314] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].
[315] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].

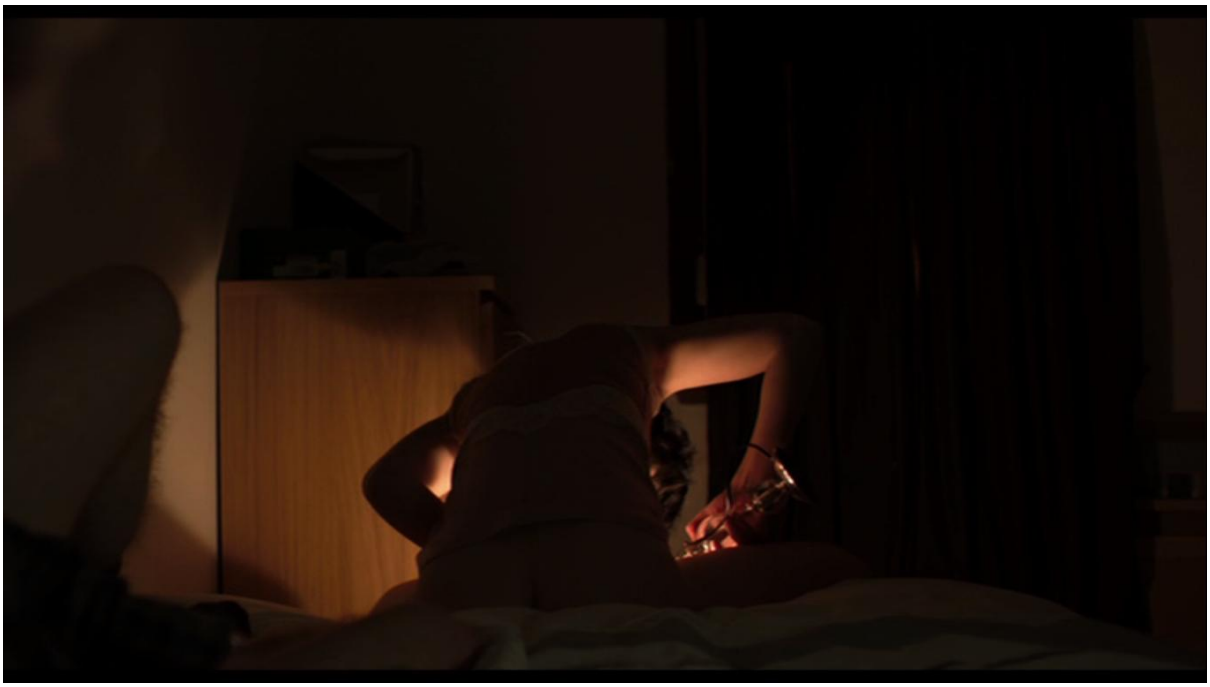
Appendix 13 - A frame from Jonathan Glazer's *Under the Skin*.[316] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

Appendix 14 - A frame from Jonathan Glazer's *Under the Skin*.[317] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

[316] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].
[317] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].

Appendix 15 - A frame from Jonathan Glazer's *Under the Skin*.[318] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

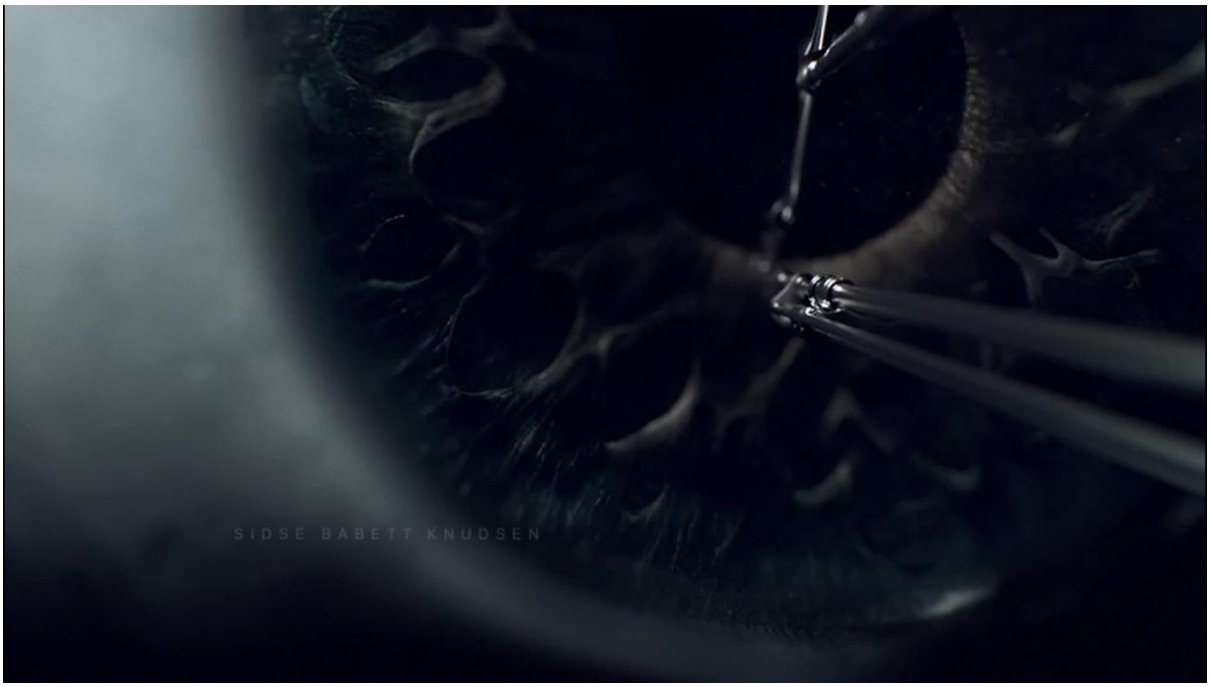
Appendix 16 - A frame from Jonathan Glazer's *Under the Skin*.[319] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.



[318] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].
[319] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].

Appendix 17 - A frame from Jonathan Glazer's *Under the Skin*.[320] © Seventh Kingdom Productions Limited / Channel Four Television Corporation / The British Film Institute.

Appendix 18 - A frame from the HBO television series *Westworld*.[321] © Warner Bros. Entertainment Inc.



[320] Jonathan Glazer (dir.), *Under the Skin* (Film4, 2014) [on DVD].
[321] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 1: The Maze*, 'The Original' (HBO Entertainment, 2017) [on DVD].

Appendix 19 - A frame from the HBO television series *Westworld*.[322] © Warner Bros. Entertainment Inc.

Appendix 20 - A frame from the HBO television series *Westworld*.[323] © Warner Bros. Entertainment Inc.

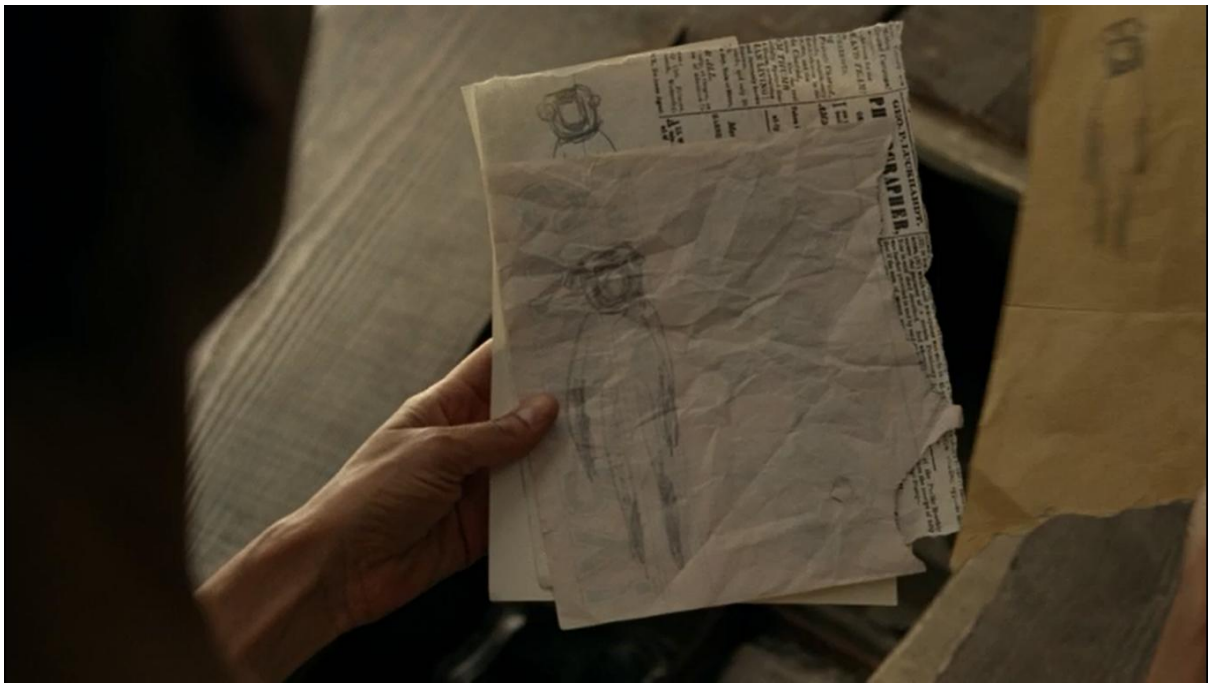
[322] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 2: The Door*, 'Virtù e Fortuna' (HBO Entertainment, 2018) [Amazon Prime Video].
[323] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 1: The Maze*, 'Chestnut' (HBO Entertainment, 2017) [on DVD].

Appendix 21 - A frame from the HBO television series *Westworld*.[324] © Warner Bros. Entertainment Inc.

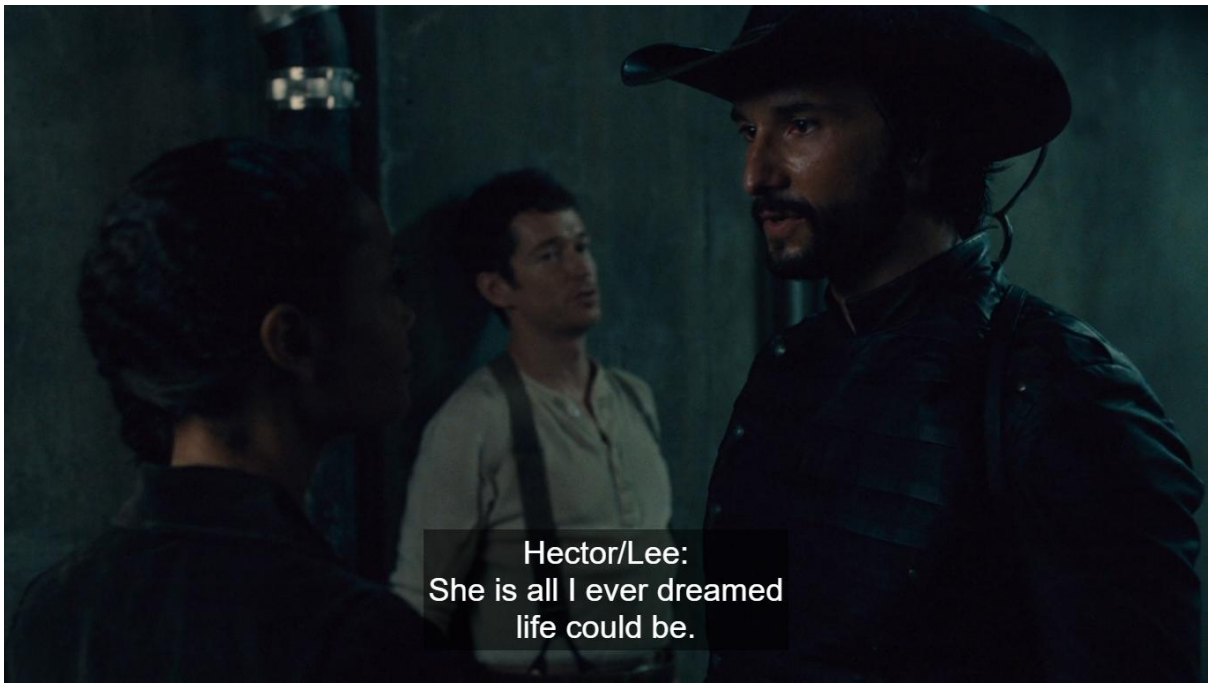
Appendix 22 - A frame from the HBO television series *Westworld*.[325] © Warner Bros. Entertainment Inc.

[324] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 2: The Door*, 'Phase Space' (HBO Entertainment, 2018) [Amazon Prime Video].
[325] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 1: The Maze*, 'Dissonance Theory' (HBO Entertainment, 2017) [on DVD].

Appendix 23 - A frame from the HBO television series *Westworld*.[326] © Warner Bros. Entertainment Inc.



Appendix 24 - A subtitled frame from the HBO television series *Westworld*.[327] © Warner Bros. Entertainment Inc. Subtitles provided by Amazon Prime Video.



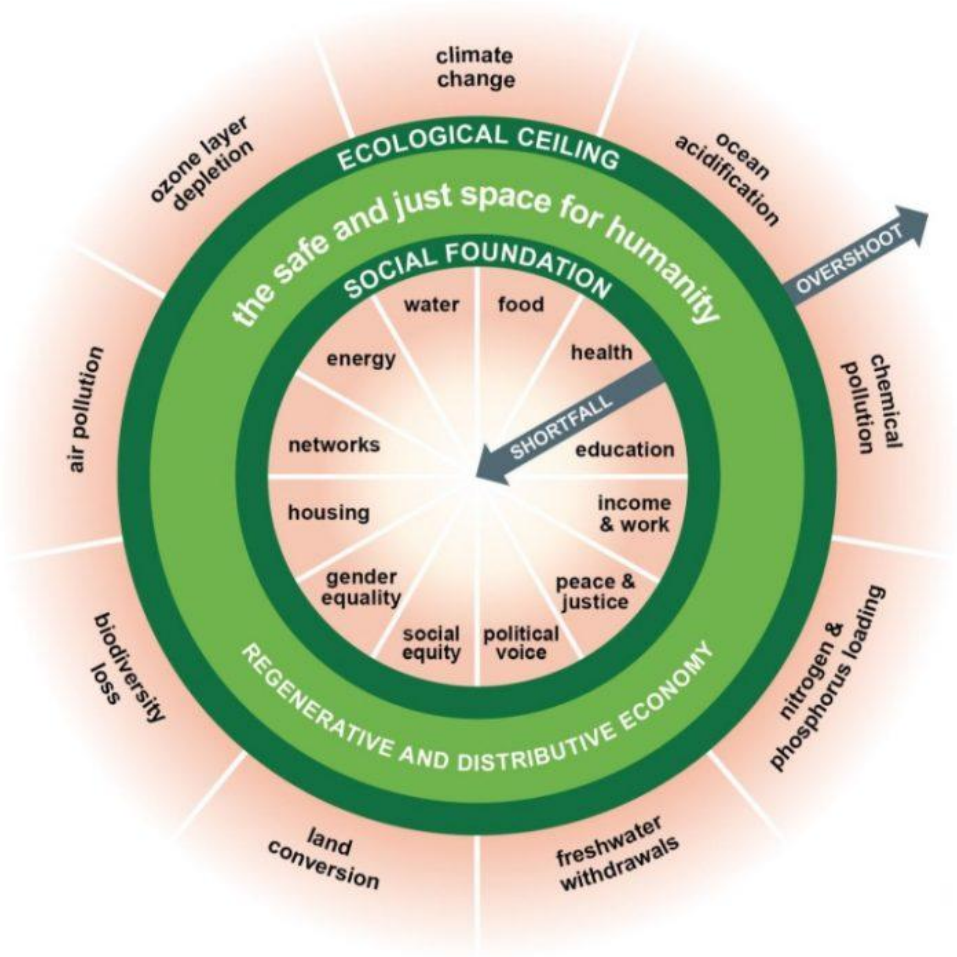
[326] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 1: The Maze*, 'Dissonance Theory' (HBO Entertainment, 2017) [on DVD].
[327] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 2: The Door*, 'Virtù e Fortuna' (HBO Entertainment, 2018) [Amazon Prime Video].

Appendix 25 - A frame from the HBO television series *Westworld*.[328] © Warner Bros. Entertainment Inc.

Appendix 26 - A frame from the HBO television series *Westworld*.[329] © Warner Bros. Entertainment Inc.

[328] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 2: The Door*, 'The Passenger' (HBO Entertainment, 2018) [Amazon Prime Video].
[329] Jonathan Nolan, Lisa Joy & J. J. Abrams (prods.), *Westworld - Season 2: The Door*, 'The Passenger' (HBO Entertainment, 2018) [Amazon Prime Video].

Appendix 27 - Kate Raworth's Doughnut of social and planetary boundaries.[330] © Kate Raworth.



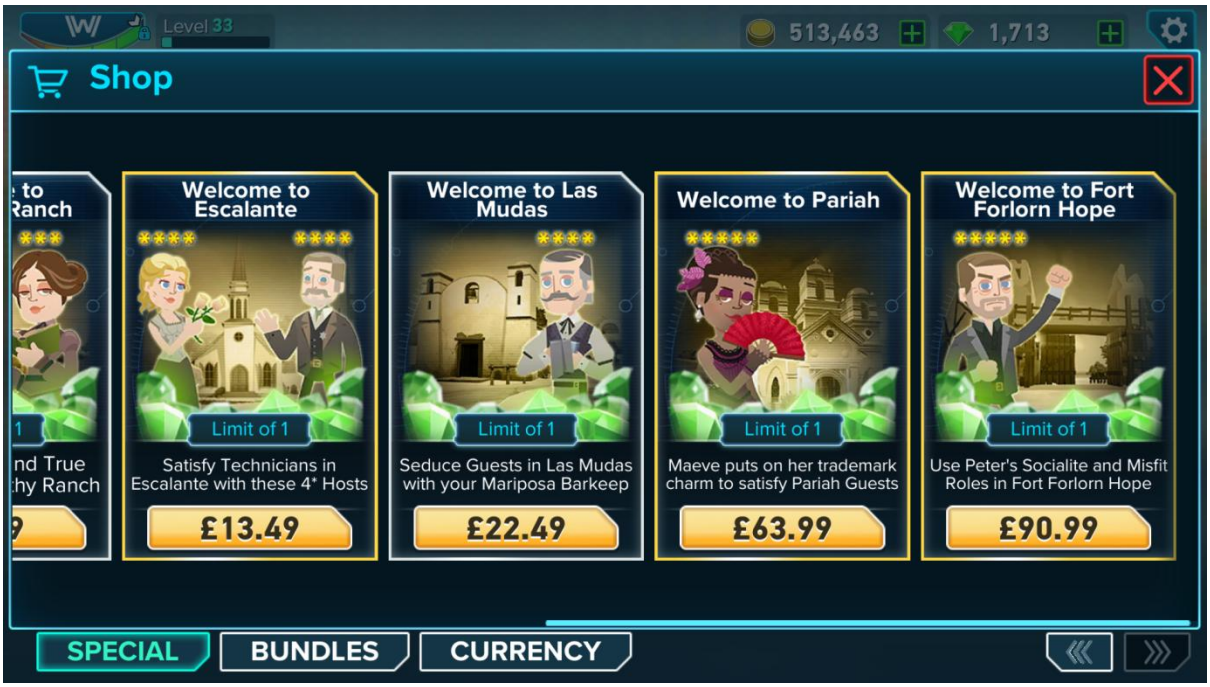
[330] Kate Raworth, 'What on Earth is the Doughnut?…', kateraworth.com, 19 May 2013 <https://www.kateraworth.com/doughnut/> [accessed 10 September 2018].

Appendix 28 - A screenshot of gameplay from the *Westworld* mobile game.[331] © Warner Bros. Entertainment Inc. / Unity Technologies.

Appendix 29 - A screenshot of gameplay from the *Westworld* mobile game.[332] © Warner Bros. Entertainment Inc. / Unity Technologies.

[331] *Westworld* (Warner Bros. Entertainment, 2018) [on Android].
[332] *Westworld* (Warner Bros. Entertainment, 2018) [on Android].

Appendix 30 - A screenshot of gameplay from the *Westworld* mobile game.[333] © Warner Bros. Entertainment Inc. / Unity Technologies.



Appendix 31 - A screenshot of gameplay from the *Westworld* mobile game.[334] © Warner Bros. Entertainment Inc. / Unity Technologies.

[333] *Westworld* (Warner Bros. Entertainment, 2018) [on Android].
[334] *Westworld* (Warner Bros. Entertainment, 2018) [on Android].